

## INITIAL STUDY

*The Department of Toxic Substances Control (DTSC) has completed the following Initial Study for this project in accordance with the California Environmental Quality Act (§ 21000 et seq., California Public Resources Code) and implementing Guidelines (§15000 et seq., Title 14, California Code of Regulations).*

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### I. PROJECT INFORMATION

Project Name: Action Memorandum/Remedial Action Plan (AM/RAP) for a Non-Time Critical Removal Action at Installation Restoration (IR) Site 7, Station Landfill, Naval Weapons Station (NAVWPNSTA) Seal Beach, California

Site Address: Naval Weapons Station (NAVWPNSTA), 800 Seal Beach Boulevard, Seal Beach, California

City: Seal Beach State: California Zip Code: 90740-5000 County: Orange

Contact Person: Pei-Fen Tamashiro  
Naval Weapons Station Seal Beach

Address: 800 Seal Beach Boulevard

City: Seal Beach State: California Zip Code: 90740-5000 Phone Number: (562) 626-7897

#### Project Description:

The Department of Toxic Substances Control (DTSC) is proposing to approve a Draft Action Memorandum/Non-Time Critical Remedial Action (NTCRA) Plan for a Removal Action at the Naval Weapons Station Site 7 Station Landfill, Seal Beach, California pursuant to the authority granted under Chapter 6.8, Division 20, California Health and Safety Code (H&SC). The Department of Defense (DOD) derives authority to undertake this cleanup action under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) under 42 United States Code U.S.C. Section 9604, 10 U.S.C. Section 2705 and Federal Executive Order (EO) 12580. The objectives of this NTCRA include the following: perform limited soil cover repairs at the landfill, surficial debris removal, excavation and offsite disposal of waste and contaminated soil, groundwater monitoring, and application of land use restrictions upon completion of site remediation work to restrict property use and to protect the site remedy.

#### Project Background:

NAVWPNSTA Seal Beach is located at 800 Seal Beach Boulevard, Seal Beach, California, and consists of approximately 5,000 acres of land along the Pacific Ocean within the City of Seal Beach. NAVWPNSTA Seal Beach is bordered on the southwest by Anaheim Bay, on the north by Interstate Highway 405 (San Diego Freeway), on the east by Bolsa Chica Road, on the west by Seal Beach Boulevard, and on the southeast by an Orange County Flood Control Channel (OCFCC). Site 7 is located along the southern boundary of the base, adjacent to Perimeter Road and the OCFCC (Bolsa Chica) as shown in Figures 1 and 2. The Site 7 removal action was expanded to include the adjacent Site 4 areas of potential concern (AOPCs) 1A and 2A. Site 4 AOPCs 1A and 2A are a 5,400-foot by 100 foot wide unpaved shoulder adjacent to Perimeter Road and Site 7 Station Landfill and along the southern boundary of NAVWPNSTA Seal Beach as shown in Figures 1 and 3. The western portion of the Site 7 and Site 4 AOPC 1A are located within the boundaries of the Seal Beach National Wildlife Refuge (NWR).

Site 7 spans approximately 33 acres. Site 7 is bounded on the north by a railroad spur and oval laydown area, on the south by a drainage ditch and Perimeter Road. The eastern boundary is not delineated but appeared in aerial photographs (taken for previous investigations) to extend to the southern projection of the marshalling yard. The western boundary cuts north-south along the eastern shoreline of Perimeter Pond at the southeast corner of the NWR. Perimeter Road forms the southern boundary of Site 7 and also contains a portion of Site 4 AOPCs 1A and 2A. The Site 7 removal action consists of six areas and an expanded area, Site 4 AOPCs 1A and 2A adjacent to Site 7.

In 1985, the Navy conducted an assessment of the NAVWPNSTA Seal Beach area to identify sites posing a potential threat to human health or the environment and that might warrant further investigation. At that time, Sites 7 and 4 were identified as sites potentially posing threats, and a confirmation study was recommended. In 1989, a RCRA facility assessment was conducted of the NAVWPNSTA Seal Beach for the United States Environmental Protection Agency (EPA). This assessment identified solid waste management units and areas of concern. Site 7 was recommended for further investigation, and Site 4 was identified as having a high current and ongoing potential for release of hazardous waste or constituents to soil or groundwater and for the generation of subsurface gases according to the report of Kearney in 1989. In 1990, laboratory testing of soils for polychlorinated biphenyl (PCB) contamination in an agricultural out lease area where used oil had been used for weed suppression were sampled for priority pollutants. No priority pollutants were detected at levels exceeding toxic threshold limit concentrations (TTLCS) in soils or water sampled according to the report of Southwest Division, Naval Facilities Engineering Command (SWDIV) 1990a. A subsequent remedial investigation conducted in 1990 by Roy F. Weston, Inc., included sampling locations and analytical parameters to delineate the nature and extent of contamination. The recommendations from this study were then used as the basis for a Remedial Investigation/Feasibility Study in a 1993 Work Plan. The final report, issued in 1995, included review of geophysical survey, soil gas sampling, integrated surface sampling, and ambient air sampling (including meteorological monitoring). Other field investigation activities performed at Site 7 included installation of groundwater monitoring wells and quarterly sampling for one year, aquifer testing, cone penetrometer testing, direct-push groundwater sampling, and surface and subsurface soil sampling. Following EPA guidance, data were collected to characterize routes of exposure including potential pathways migration, for example, groundwater contamination, soil vapor, and atmospheric releases.

A baseline human health risk assessment (HHRA) and a preliminary Ecological Risk Assessment (ERA) were conducted using the data collected from the field investigations. The results from the risk assessments indicated that the chemical risks generated at Site 7 to human and ecological receptors are low. However, as part of the investigations, elevated lead concentrations (2,080 milligrams per kilogram [m/kg]) were detected in soil at a depth of 1 foot below ground surface (bgs) at well location (W42) near the segment of Site 4 that is adjacent to the National Wildlife Refuge. Additional investigation was conducted in this area designated as the "lead hot spot" as part of the remedial investigation. Additional samples were collected and analyzed for chromium, lead, and zinc. Results revealed that for the 35 surface soil samples collected, 23 samples indicated lead concentrations in excess of the California-modified residential preliminary remediation goal (PRG) for lead (130 mg/kg) with a maximum concentration of 5,180 mg/kg. These samples were located in the strip of land along Perimeter Road, in the southern part of Site 7, approximately 100 by 1,400 feet long. Additional laboratory results revealed a maximum concentration of 740 mg/kg. Tetrachloroethene; benzo(a)pyrene; and 4,4'-DDT were each reported in one sample. Total petroleum hydrocarbons as diesel (TPH-d) concentrations of 40.9 and 19.8 mg/kg were reported in two samples. No chemicals of potential concern (COPCs) were identified in the groundwater samples collected from Well W42 located within the lead hot spot. The remedial investigation report concluded that the elevated lead concentrations reported in the lead hot spot were probably associated with oiling the Perimeter Road rather than Site 7 operations and that the lead hot spot would be further investigated as part of Site 4.

In 1995, six locations were recommended for further investigation as the result of a site investigation. Further testing of Perimeter Road (426) samples at depths of 6 and 24 inches bgs were analyzed for lead. Soil samples were collected every 500 feet (212 samples) were analyzed for total petroleum hydrocarbons (PHs) and semivolatile organic compounds (SVOCs). Soil samples collected every 1,000 feet (106 samples) were analyzed for polychlorinated dibenzodioxins (dioxin)/polychlorinated dibenzofurans (furans) (PCDDs/PCDFs). Analytical results indicated that 36 out of 426 samples at the 6-inch depth had lead concentrations above the residential PRG value of 130 mg/kg (residential PRG). The analytical results also indicate that 25 samples had PCDD/PCDF toxicity equivalency factor values above the preliminary remediation goal (PRG) value for tetrachlorodibenzo-p-dioxin (TCDD) of 0.0038-mb/kg. Seventeen of the samples were from a depth of 6 inches bgs, and eight samples were from a depth of 24 inches bgs. The only SVOC reported above the residential PRG was benz(a)anthracene, in one sample at the 6-inch depth, according to AccuTek in 1995.

Groundwater sampling to assess ecological risk and metals concentrations was performed at the request of the DTSC in 1995 and a supplemental groundwater monitoring study was performed in 1998 at various sites, including Site 7. The report concluded that the groundwater quality data trends at Site 7 indicated sporadic detection of few metals that exceeded their respective ambient water quality criteria and background concentrations. Further, the radionuclides were found to be naturally occurring, and cyanide was not detected in the September 1998 sampling event. Overall, natural attenuation processes (e.g., dilution due to tidal "flushing") appears to have been active over time, and no well-defined plumes exist.

A supplemental characterization study of Perimeter Pond trenches was undertaken to characterize the existence of buried waste at Site 7. However, findings were inconclusive, and further studies were required to adequately characterize the wastes.

In 2001, a Removal Site Evaluation of several sites, including Site 4, was conducted. This evaluation assessed AOPCs 1A and 2A and included an ERA and an HRA. Based on the findings and conclusion for soil at AOPCs 1A and 2A, further evaluation is recommended for lead in soil. Based on the findings and conclusions for groundwater at AOPCs 1A and 2A, groundwater is recommended for further evaluation for confirmatory groundwater monitoring for arsenic, antimony, and hexavalent chromium according to the report of BNI, 2001.

The objectives for the removal action are listed below:

1. Reduce the potential for exposure of ecological receptors to landfill waste and potentially contaminated soil by increasing separation and/or eliminating exposure pathways (for example [e.g.], water seeps) of wastes to human and ecological receptors;
2. Restore habitat that is compatible with the Seal Beach National Wildlife Refuge habitat;
3. Minimize impact to wetlands and improve conditions of remaining wetlands, to the extent practicable;
4. Control surface water runoff and reduce the potential for erosion of the landfill surface;
5. Comply with chemical-specific Applicable or Relevant and Appropriate Requirements (ARARs) where exceedances have occurred due to waste releases;
6. Minimize further migration of lead in surface soil at adjacent Site 4 AOPCs 1A and 2A; and
7. Reduce risk to ecological receptors from lead-contaminated soil to acceptable levels at adjacent Site 4 AOPCs 1A and 2A.

These Remedial Action Objectives are designed to protect humans and habitat from contact or exposure to surface trash and debris.

A detailed description of each area follows.

Site 7 Area 1: This area lies in the northeast portion of the site. It covers approximately 8 acres. Most of the waste disposal and landfilling activities took place in Area 1 in a series of unlined trenches lying in an east-west orientation. Reportedly, the trenches were excavated to a depth of 10 feet below ground surface (bgs) and filled with debris (Naval Energy and Environmental Support Activity [NEESA], 1985). However, exploration during a supplemental characterization indicated the bottom depth of the debris varied between 5.5 and 9 feet bgs with an average bottom depth of 6.4 feet bgs (Southwest Division, Naval Facilities Engineering Command [SWDIV], 1999c). Types of debris observed during exploratory drilling included diapers, clothing, wire, and rubber.

Chemical soil sample analyses detected low levels of VOCs, SVOCs, PCBs, pesticides, and cyanide with no consistent pattern. Metals were detected generally within background levels. Metals included copper, nickel, lead, and zinc. Sampling results revealed no significant migration of landfill gas. Sampling was conducted by Aero Vironment, Inc. in 1993. Shallow groundwater shows low levels and infrequent detections of COPCs including, VOCs, SVOCs, pesticides, metals, asbestos, and cyanide. Results of sampling did not reveal a plume of significant contamination. At Site 7, shallow groundwater was encountered between 3 and 5 feet bgs. The underlying shallow groundwater is saline to hypersaline (total dissolved solids [TDS] ranging between 24,000 and 57,000 mg per liter (L) and cannot be regarded as a potential drinking water source. A connection between the shallow groundwater and the lowered aquifer system (a deeper source of main drinking water) appears unlikely.

The lack of a verifiable groundwater plume and significant gas emissions at the Site 7 landfill suggests that natural attenuation processes have been active for the last 25 to 50 years since cessation of landfill operations. For example, the wastes were buried in clays and silty clays, which would tend to immobilize the metals, polycyclic aromatic hydrocarbons (PAHs), pesticides, and PCBs. Most VOCs are expected to have volatilized into the atmosphere or dissolved into rainwater and infiltrated to the groundwater. Over the course of 25 to 50 years, the effects of advective transport and dispersion on soluble compounds significantly would reduce their concentrations in soil and groundwater. Historic, seasonal, and tidal fluctuations of groundwater levels at Site 7 can enhance passive aerobic biodegradation because the subsurface soil matrix is alternately saturated and unsaturated. In particular, the lack of gas emissions seems to indicate that organic matter in the landfill has entered the final phases of degradation. Based on the baseline HHRA, only PCBs were detected at concentrations to qualify as a COPC from a human health standpoint. PCBs were detected at a

maximum concentration of 0.435-mg/kg in soils. The HHRA estimated the lifetime cancer risk at one in one million, which is within the range of concern that can be addressed through risk management decisions. Human exposure to buried contaminants at Site 7 would only occur if there were future disturbance of the existing soil cover. Otherwise, human exposure to the landfill wastes is limited to Navy personnel, other governmental agency personnel, and occasional visits by academic institutional staff and students, and brief visits by the public.

The preliminary ERA identified DDT and its metabolites (dichlorodiphenyldichloroethane [DDD] and dichlorodiphenyldichloroethene [DDE]) as ecological COPCs in sediments. However, the DDT and its metabolites are likely to be regional contaminants dispersed by agricultural activities in the Los Angeles area, according to the report of SWDIV, 1995a. Consequently, no significant ecological risks for the landfill were identified. Site-specific PRGs were near or above the site maximum concentrations; therefore, the proposed values did not alter the preliminary conclusion of the ERA for no further action at the Site 7 as recommended by the remedial investigation. The screening aquatic ERA identified possible low risks to sessile benthic invertebrates caused by concentrations of several chemicals (silver, DDT and metabolites, and Aroclor 1254) in sediment that exceed screening risk levels. Based on the 10 locations sampled in the Perimeter Pond area, those risks would occur at 2 locations: the southeast corner of the pond and an area near the exposed debris near the center of the east shoreline. Risks from such exposure would be limited to a small area because the seep would be diluted rapidly upon entering the pond. No adverse levels for pesticides in birds were exceeded by concentrations of the pesticides in mussel tissue, which the birds consume in large amounts as food from the area. The primary receptors that are most likely to be impacted by existing site conditions are aquatic and marine life inhabiting the water column and residing in or on the sediment located along the eastern shoreline of Pond and ecological receptors that nest nearby.

**Site 7 Area 2:** This area lies along the southern boundary of the site adjacent to Perimeter Road. It is probably a single, contiguous trench approximately 600 feet long by 40 feet wide (about 0.6 acre). The bottom depth of debris ranges from 6 to 10 feet bgs (SWDIV, 1999c) with an average bottom depth of 7.5 feet bgs. During exploratory drilling, building materials such as wood, metal, and concrete were observed.

**Site 7 Area 3:** This area lies in the northwest portion of Site 7. It is an irregularly shaped area that is approximately 1 acre. Site visits to Area 3 reveal surficial scattered rusted metal debris. This surficial metal debris accounts for the geophysical anomalies detected in this area during the presampling activities of the remedial investigation (RI) (SWDIV, 1995b).

**Site 7 Area 4:** This area lies in the northwest portion of Site 7 southeast of Area 3. It is similar to Area 3 in that it is also an irregularly shaped area, approximately 1 acre, littered with surficial rusted metal debris.

**Site 7 Area 5:** This area forms the eastern shoreline of Perimeter Pond and lies between Perimeter Pond and East Pond. Two north-south-oriented trenches lie in this area, with a portion of the western trench exposed to Perimeter Pond. Exposed debris observed includes materials such as concrete, metal banding, and lumber. Area 5 covers about 0.7-acre and has an average bottom debris depth of 7 feet (SWDIV, 1999c).

**Site 7 Area 6:** This area lies to the southeast of Area 5 and is similar to Areas 3 and 4 in that the debris found in this area appears to be surficial only. Area 6 lies along an unpaved access road between Perimeter Road and the eastern shore of Perimeter Pond. The debris, mostly pieces of lumber, appears to have fallen off vehicles during construction of Perimeter Pond. This area is irregular in shape and occupies about 0.1-acre.

**Site 4 AOPCs 1A and 2A:** Site 4 AOPCs 1A and 2A are a 5,400-foot by 100-foot-wide unpaved shoulder adjacent to both Perimeter Road and Site 7 Station Landfill, along the southern boundary of NAVWPNSTA Seal Beach. Site 4 AOPC 1A is located within the NWR, and AOPC 2A is located east of the NWR. Site 4 AOPCs 1A and 2A were identified as containing several potential locations where elevated lead concentrations from dust control activities were detected. An estimated 40,000 gallons of waste oil was applied over a 1-year period on 12 miles of the perimeter road for dust control (NEESA, 1985; SWDIV, 1990). Information from previous investigations indicates that elevated lead concentrations were detected to a depth of at least 2.5 feet (SWDIV, 1990; BNI, 2001). In the Removal Site Evaluation conducted for AOPC 1A, several metals were reported at concentrations above background levels for soil in adjacent to the road: antimony, arsenic, and hexavalent chromium. (confirm metals tested with report) Elevated PCDD/PCDF concentrations were reported; however, because those concentrations were within the National Wildlife Refuge and NAVWPNSTA explosive arc, and were in close proximity to the landfill, a human health risk assessment was not performed. For AOPC 2A, the HRA estimated a cancer risk at  $3.7 \times 10^{-5}$ , which is within the NCP generally acceptable range of one in one million to 10 in one million for risk management. The systemic toxicity was evaluated to be unlikely due to a hazard index of less than 1.0. Because residential use of the site is unlikely, potential health effects from lead exposure to lead are not of concern.

A specific ecological assessment for lead was performed to determine the site-specific target cleanup goal (TCG) for Site 4 AOPCs 1A and 2A. The lowest observed adverse effects level (LOAEL)-equivalent soil concentrations was compared to the full distribution of lead measured in soils at Site 4 AOPCs 1A and 2A. Testing revealed hot spot area concentrations. There are no documented impacts due to exposure to chemical in soil at Site 4.

#### Project Activities:

The Department of the Navy (DON) is proposing the following activities as part of the Site 7 removal action:

- Site 7 Area 1: Limited repair of existing soil cover, sampling, and groundwater monitoring;
- Site 7 Area 2: Groundwater monitoring;
- Site 7 Areas 3, 4, and 6: Removal of surface debris; and
- Site 7 Area 5 and Site 4 AOPCs 1A and 2A: Excavation followed by offsite disposal and clean imported backfill;
- Institutional Controls/Application of Land Use Restrictions: The DON will implement Land Use Restrictions to ensure that Site 7 is not transferred to a non-federal agency.

These activities are more fully described below.

#### Site 7 Areas 1:

The project involves the repair of the existing landfill soil cover. The minimum thickness of the soil cover will be at least two feet. Imported soil will be placed in locations where the cover is deficient to achieve the two-foot thickness. This additional thickness will prevent direct contact with buried waste and eliminate the potential migration of contamination through windblown dust and surface runoff. The top six inches of soil cover will consist of soil compost from IRP Site 5, which is currently stockpiled just north of IRP Site 7. This material is high in organic content and will be used as topsoil over the landfill cover in Area 1. If additional soil is needed, imported clean soil obtained from off-site borrow sources will be used to construct and repair the soil cover at Area 1. Soil material from IRP Site 5 and the off-site borrow sources will be tested in accordance with the sampling plan to confirm that the chemical content meets the requirements of clean material. Material from the existing cover will be removed, replaced, and compacted where needed. The soil cover will be at least 2 feet thick over all solid waste material and compacted to a minimum of 90 percent of the maximum dry density. The topsoil cover will be seeded with a mixture of native vegetation species. The seeds will be broadcast over the entire area of Area 1. The top 2 to 3 inches of the cover will be loosened using mechanical equipment (disk) prior to seeding. Mulching may be used on an as-needed basis. Additionally, a network of four existing groundwater-monitoring wells (W41, W42, W43, and W45) is proposed to be used to collect groundwater samples and monitor for trends in chemical concentrations in groundwater. Due to the shallow groundwater, tidal fluctuations, generally poor groundwater quality, and minimal ecological risk, studies have shown that minimizing infiltration to reduce the production of leachate and gas is not necessary.

#### Site 7 Area 2:

In Area 2 the groundwater will be monitored for potential trends or offsite migration of chemicals from Area 2. The purpose of this groundwater-monitoring program is to serve as a sentinel well network to monitor the potential for groundwater contamination migration from Site 7. These wells are located strategically between buried wastes at Site 7 and the nearest potential aquatic receptors. Thus, these groundwater-monitoring wells will serve as an “early detection system.” This program will be consistent with the recommendations of the groundwater monitoring study performed at Site 7 (Bechtel, 2002). Groundwater monitoring will be carried out by the DON subsequent to the remediation activities.

#### Site 7 Areas 3, 4, and 6:

Based on previous geophysical surveys and site visits, only surface debris is known to exist in Areas 3, 4, and 6; therefore, selective removal of debris from the top few feet of soil at the site is proposed in these areas. Successful removal will be confirmed by nonintrusive geophysical techniques and confirmation sampling. If geophysical results indicate the presence of buried debris in Areas 3 and/or 4, these areas will be overexcavated to remove the debris. (Area 6 has no buried debris.) The excavated soil and debris will be processed through a rotary mechanical screen in order to segregate the debris from the soil. The soil will be stockpiled at the site. Soil samples will be collected from the screened and stockpiled soil for waste classification purposes and to determine if the material is suitable for use as backfill for the depressions and excavations in Areas 3 and 4. The surface depressions and voids created by removal of the debris will be backfilled with the screened soil [portions that meet the upper limit background value (ULBV) for metals] or clean imported soil and compacted to a minimum of 90 percent of the maximum dry density. The debris material will be hauled offsite and disposed at an approved landfill or will be recycled.

## Site 7 Area 5:

Based on long-term risks to aquatic receptors in the Perimeter Pond, the removal action for Area 5 will involve excavation of wastes and waste residuals (approximately 3,500 cubic yards [cy] in-place volume [SWDIV, 1999c]) below approximately 2 feet of overburden soil in the area to the extent that waste can no longer be confirmed by sampling and the existence of waste debris. The excavation volume, however, may vary significantly based on conditions encountered during excavation. It is anticipated that in place excavation volumes (including waste and contaminated soils) at Area 5 could range from as low as 3,500 cy to as high as 14,700 cy. Stockpiled soil will be tested and characterized to assure that it meets the upper limit background value for metals. Alternatively, clean imported soil obtained from an off-site borrow source will be used if additional soil is needed to complete the back filling and grading.

## Site 4 AOPCs 1A and 2A:

Based on long-term risks to ecological receptors, the removal action for Site 4 AOPCs 1A and 2A will involve excavation of lead-contaminated surface soil to the extent that elevated concentrations (above the TCG of 600 milligrams per kilogram [mg/kg] for lead coupled with an areawide arithmetic average TCG of less than 100 mg/kg for lead) are no longer detected. The excavation volume, however, may vary significantly based on lead concentrations detected during excavation. It is anticipated that excavation volumes could range from as low as 600 cy to as high as 2,800 cy. Initially, pre-excavation soil sampling will be performed. Samples will be collected via hand-augered borings. One boring will be augered in each 50-foot by 50-foot grid cell. At each boring location, samples will be collected from depths of 0.5 feet and 1.5 feet bgs. As there are 216 grid cells, this will yield a total of 432 samples (plus QC samples). The samples will be submitted to a DON approved analytical laboratory and analyzed for lead concentration. If any of the pre-excavation sample results indicate a lead concentration exceeding 600 mg/kg, the corresponding 50-foot by 50-foot grid cell will be excavated to the sample depth, plus 6 inches. For example, if a sample collected from a depth of 1.5 feet shows a lead concentration exceeding 600 mg/kg, the entire grid cell where the sample was collected will be excavated to a depth of 2 feet bgs. A site-specific TCG of 600 mg/kg for lead is proposed.

After excavation, the grid cell will be re-sampled (confirmation sampling) to ensure that the lead-contaminated soil has been removed. Confirmation sampling will consist of collecting one sample from the floor of the excavation and one sample from each of the four sidewalls of the excavation. If the confirmation sample collected from the floor of the excavation indicates a lead concentration exceeding 600 mg/kg, the entire 50-foot by 50-foot floor of the excavation will be excavated an additional 6 inches and re-sampled. If any of the confirmation samples collected from the sidewalls of the excavation indicates a lead concentration exceeding 600 mg/kg, the entire 50-foot length of the corresponding sidewall will be excavated laterally an additional 5 feet and re-sampled. This process will continue in each grid cell until all confirmation sample results indicate a lead concentration below 600 mg/kg. This process will be performed in each of the 216 grid cells that comprise IRP Site 4 AOPCs 1A and 2A. The wastes then will be transported offsite and disposed in an approved landfill. Imported clean, fine-grained soils will be used to backfill the excavation, and the reconstructed shoreline surface then will be armored with riprap and geotextile for erosion protection.

Institutional Controls: Institutional controls in the form of land use restrictions are necessary to prevent unacceptable risk to human health from potential contact with residual contamination, prevent groundwater use that may be affected by soil contamination, protect monitoring equipment, and preserve access to the sites and associated monitoring equipment for the DON and FFSRA signatories. In addition, land use restrictions are necessary to protect the integrity of the landfill remedy and to prevent land transfer for inappropriate uses of the property.

The project is anticipated to commence November 2003 and end December 2003.

II. DISCRETIONARY APPROVAL ACTION BEING CONSIDERED BY DTSC

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> Initial Permit Issuance | <input type="checkbox"/> Closure Plan                   | <input type="checkbox"/> Removal Action Workplan |
| <input type="checkbox"/> Permit Renewal          | <input type="checkbox"/> Regulations                    | <input type="checkbox"/> Interim Removal         |
| <input type="checkbox"/> Permit Modification     | <input checked="" type="checkbox"/> Removal Action Plan | <input type="checkbox"/> Other (Specify)         |

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Program/ Region Approving Project: Office of Military Facilities  
Department of Toxic Substances Control

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Contact Person: Katherine LeibelAddress: 5796 Corporate AvenueCity: Cypress State: California Zip Code: 90630 Phone Number: (714) 484-5446**III. ENVIRONMENTAL RESOURCES POTENTIALLY AFFECTED**

The boxes checked below identify environmental resources which were found in the following ENVIRONMENTAL SETTING/IMPACT ANALYSIS section to be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact."

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> None Identified             | <input type="checkbox"/> Aesthetics                 | <input type="checkbox"/> Agricultural Resources          |
| <input type="checkbox"/> Air Quality                 | <input type="checkbox"/> Biological Resources       | <input type="checkbox"/> Cultural Resources              |
| <input type="checkbox"/> Cumulative Effects          | <input type="checkbox"/> Geology And Soils          | <input type="checkbox"/> Hazards and Hazardous Materials |
| <input type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Land Use and Planning      | <input type="checkbox"/> Mineral Resources               |
| <input type="checkbox"/> Noise                       | <input type="checkbox"/> Population and Housing     | <input type="checkbox"/> Public Services                 |
| <input type="checkbox"/> Recreation                  | <input type="checkbox"/> Transportation and Traffic | <input type="checkbox"/> Utilities and Service Systems   |

**IV. ENVIRONMENTAL IMPACT ANALYSIS**

The following pages provide a brief description of the physical environmental resources that exist within the area affected by the proposed project and an analysis of whether or not those resources will be potentially impacted by the proposed project. Preparation of this section follows guidance provided in DTSC's California Environmental Quality Act Initial Study Workbook [Workbook]. A list of references used to support the following discussion and analysis are contained in Attachment A and are referenced within each section below.

Mitigation measures which are made a part of the project (e.g.: permit condition) or which are required under a separate Mitigation Measure Monitoring or Reporting Plan which either avoid or reduce impacts to a level of insignificance are identified in the analysis within each section.

**1. Aesthetics***Project activities likely to create an impact:*

Planned project activities include removal of debris and supplementing existing earthen cover with additional soils, excavation, and temporary stockpiling of fill material.

*Description of Environmental Setting:*

The removal action area does not contain any buildings or structures and currently is covered with sparse vegetation. It is located in the outskirt area of the NAVWPNSTA that is not trafficked frequently. Some low-lying partially exposed debris is visible in Site 7 Areas 1, 3, 4, 5, and 6 (mostly metal and construction debris).

*Analysis of Potential Impacts.*

The project will not block any views, nor will it obstruct any scenic vista or view open to the public. The project location does not have any scenic resources in the vicinity of the project site. Existing site conditions will be re-established after completion. The project will not create a new source of new light and/or glare. Therefore, the project activities would not:

- a. Have a substantial adverse effect on a scenic vista.
- b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings and historic buildings within a state scenic highway.
- c. Substantially degrade the existing visual character or quality of the site and its surroundings.
- d. Create a new source of substantial light of glare that would adversely affect day or nighttime views in the area.

*Specific References (List a, b, c, etc):*

Southwest Division, Naval Facilities Engineering Command (SWDIV). 2001. Draft Engineering Evaluation/Cost Analysis (EE/CA), Non-time Critical Removal Action for Site 7 Station Landfill. Naval Weapons Station, Seal Beach, California. 29 October. hereafter referred to as SWDIV, 2001.

*Findings of Significance:*

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ☐ Less Than Significant Impact
- ☒ No Impact

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## 2. Agricultural Resources

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*Project activities likely to create an impact:*

Planned project activities include removal of debris and supplementing existing earthen cover with additional soils, excavation, and temporary stockpiling of fill material.

*Description of Environmental Setting:*

NAVWPNSTA Seal Beach encompasses about 5,000 acres of which approximately 75 percent (approximately 3,750 acres) is covered by explosives safety quantity distance arcs that restrict development to specific permitted uses. Two agricultural out leases totaling approximately 2,000 acres are used for farming (irrigated and dry farming) and maintenance. Approximately 100 acres of land currently are being leased for oil production. In addition to out leased land, the NWR, a major biological resource, encompasses approximately 911 acres.

Analysis of Potential Impacts. Describe to what extent project activities would:

Project activities do not impact farmland or nearby farmland. The planned removal action areas are not used nor are they suitable for agricultural purposes; consequently, the project will not impact any agricultural land or Farmland of the California Resources Agency.

The project is not located within zones designated for agricultural use. In addition, based on the previous and existing land conditions, the site would not warrant acceptable farmland use.

Project activities will not impact farmland or nearby agriculture activities.

Therefore, project activities would not:

- a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
- b. Conflict with existing zoning or agriculture use, or Williamson Act contract.
- c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural uses.



*Specific References (list a, b, c, etc):*

SWDIV, 1996

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☒ Less Than Significant Impact  
☐ No Impact

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**3. Air Quality**

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*Project activities likely to create an impact:*

Planned project activities include removal of debris and supplementing existing earthen cover with additional soils, excavation, and temporary stockpiling of fill material. Limited amounts of dust and exhaust would be created by vehicle traffic and equipment operators due to construction activities.

Planned project activities include removal of debris and supplementing existing earthen cover with additional soils, excavation, and temporary stockpiling of fill material.

*Description of Environmental Setting:*

The South Coast Air Quality Management District (SCAQMD) is the air pollution control agency for the four-county region including the counties of Los Angeles, Orange, and parts of Riverside and San Bernardino. This area of 10,743 square miles is home to more than about half of California's population. It is the second most populated urban area in the United States. While the SCAQMD continues to make progress toward improving its air quality and to pursue strategies to improve its air quality and to comply with state and federal requirements, the air in the district is far from meeting air quality standards. To reach the clean air goal in the years remaining before Clean Air Act deadlines, Southern California plans to intensify its pollution reduction efforts. To ensure progress toward that end, the SCAQMD, in conjunction with the California Air Resources Board, the Southern California Association of Governments, and the U.S. Environmental Protection Agency, is preparing the 2003 revision to its Air Quality Management Plan. The plan outlines the air pollution control measures needed to meet federal health standards for ozone by 2010 and for fine particulates, known as PM 10, by 2006. It also demonstrates how the federal standard for carbon monoxide, achieved for the first time at the end of last year, will be maintained. Lastly, the plan examines what will be needed to achieve new and more stringent health standards for ozone and ultra fine particulates, known as PM 2.5. The plan employs up-to-date science and analytical tools and incorporates a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, on-road and off-road mobile sources and area sources. This plan points to the urgent need for additional emission reductions (beyond those incorporated in the 1997/99 Plan) to offset increased emissions estimated from mobile sources and meet all federal criteria pollutant standards within the time frames allowed under the federal Clean Air Act. Presently the SCAQMD is in nonattainment for ozone and PM10. The latest data from the California Air Resources Board shows that emissions from cars, trucks, and other vehicles-particularly older cars are significantly higher than previously estimated. For the year 1997, VOC emissions from on-road vehicles were 533 tons per day -20 percent higher than previously estimated. On-road vehicle emissions of oxides of nitrogen (NOx) are 841 tons per day - 39 percent higher than previously estimated. VOCs-from paints, consumer products and vehicle fuel combustion – and NOx, primarily from vehicle fuel combustion are the two major building blocks of ozone and fine particulates. The draft 2003 air quality plan identifies 24 air pollution measures to be adopted by the SCAQMD to further reduce emissions from businesses, industry, and paints. It also identifies 29 measures to be adopted by the California Air Resources Board and the U.S. Environmental Protection Agency to further reduce pollution from cars, trucks, construction equipment, aircraft, ships, and consumer products.

The Seal Beach climate is classified as a marine-influenced southern California coastal region with mild winters that average 52 degrees Fahrenheit (°F) and summers that average 68°F. Air temperature extremes range from winter lows in the 30s to summer highs in the 90s. Annual precipitation averages 12.5 inches with approximately 90 percent occurring between the months of November and April. Although precipitation is low, a high humidity level is sustained owing to the proximity of the Pacific Ocean.

Prevailing winds at NAVWPNSTA Seal Beach average 3.8 miles per hour (mph) from the west. Occasional strong, dry winds of up to 60 mph from the northeast, occur in the fall, winter, and early spring due to Santa Ana wind conditions.

The removal action area does not contain any buildings or structures and currently is covered with sparse vegetation. It is located in the outskirt area of the NAVWPNSTA that is not trafficked frequently. Low-lying partially exposed debris (mostly metal and construction debris) are visible in Site 7 Areas 1, 3, 4, 5, and 6.

#### Analysis of Potential Impacts.

The main air emissions generated by this project would be fugitive dust. The greatest amount of emissions will occur during excavation, sifting and stockpiling, backfill and cover placement. These field activities are expected to last for approximately 4.5 months and no conflict with the South Coast Air Quality Management District (SCAQMD) air quality plan is anticipated with implementation of the Removal Action Plan (SWDIV, 2001).

The Removal Action Plan proposes air quality monitoring measures to address those methods of mitigating fugitive dust. Dust emissions will be controlled by spraying water during excavation and stockpiling activities. The air will be monitored for particulates to ensure compliance with the substantive requirements of SCAQMD Rules 401(b) (1) (A), and 403. The air will be monitored for dust upwind and downwind of the site to determine the amount of dust emissions generated by the excavation. In the event the excavation or the stockpiles produce significant dust, excavation will be halted and the excavation area or stockpiles will be sprayed with water and/or covered with 10-mil plastic sheeting, as appropriate. The potential exposure of site workers and the public to chemical constituents present in the soil is through the inhalation of dust. According to the Occupational Safety and Health Administration (OSHA), the permissible exposure limit (PEL) for workers (based on an 8-hour shift) is 5 milligrams per cubic meter ( $\text{mg}/\text{m}^3$ ) for dust. To be more protective of public health and the environment, total dust emissions will be monitored and if found to exceed  $1 \text{ mg}/\text{m}^3$ , dust suppression measures (e.g., spraying water and covering stockpiles) will be implemented.

The project also will generate vehicle exhaust emissions, including carbon monoxide (CO), volatile organic compounds (VOCs), nitrogen oxides ( $\text{NO}_x$ ), sulfur oxides ( $\text{SO}_x$ ), and particulate matter with an aerodynamic diameter smaller than or equal to 10 microns ( $\text{PM}_{10}$ ).

Excavation activities may create temporary airborne particulate and fugitive dust emissions, which will cease once the field activities are complete. Airborne particulate and fugitive dust are not expected during the excavation of the trenches at Area 5 because most of the material in this area is generally in very moist condition. The stockpiled soil will be covered with plastic, and the site will be sprayed with water as necessary to keep dust emissions below  $1 \text{ mg}/\text{m}^3$ . Air monitoring will be conducted upwind and downwind of the site perimeter. The SCAQMD California Environmental Quality Act (CEQA) Handbook, Table 9-9-G provides the following equation for calculating dust ( $\text{PM}_{10}$ ) emissions from soil handling operations (SCAQMD, 1993):

$$E = 0.00112 \times \{(G/5)^{1.3} / (H/2)^{1.4}\} \times I/J$$

where:

E =  $\text{PM}_{10}$  emissions from dirt piling or material handling operations

G = wind speed (average 3.8 mph)

H = soil moisture content (15 percent by weight, H = 0.15)

I = pounds of soil handled per day (1,000,000 pounds per day)

J = 2,000 (conversion from tons of soil to pounds of soil)

Assuming an average wind speed of 3.8 mph, a soil moisture content of 15 percent by weight, handling an average of 500 tons (1,000,000 pounds) of soil per day, and no dust suppression measures, the project is expected to generate approximately 15 pounds per day of  $\text{PM}_{10}$  emissions due to soil handling operations. The SCAQMD considers a project to have a significant impact on air quality if the projected dust emissions are greater than 150 pounds per day (lbs/day).

Approximately eight additional vehicles will enter and leave NAVWPNSTA Seal Beach each day in support of this project. Earth-moving equipment is expected to operate approximately 8 hours per day for 60 days. Approximately 20 truck trips per day will be required for hauling excavated materials offsite intermittently for a period of approximately 28 days. Approximately 180 -23-ton capacity truck loads will be used for hauling waste off site for disposal. Waste will be stockpiled and hauled in one event. Waste volume from the excavation of the Site 7 area is estimated to be 3,500 cy; waste volume from the excavation of the Site 4 (AOPCs 1A and 2A) could be as much as 2,800 cy. The following is an estimate of the exhaust emissions associated with this temporary increase in vehicular traffic.

	Maximum Exhaust Emissions (lbs/day) *				
	CO	VOC	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>
Estimated Emissions	32.93	6.14	54.34	6.17	4.83
SCAQMD Limit	550	55	55	150	150

\* The emissions have been estimated using the worst-case assumption that all equipment operates simultaneously for the life of the project.

These temporary emissions are below SCAQMD thresholds.

Chemical constituents present in the soil and dust are not potential ozone-depleting gases or potential heat-regenerative gases. The project is not in a confined space so any dust generated by the project will disperse and will not displace oxygen to any level of significance. Even if the dust concentration reaches the project's maximum allowable concentration (1 mg/m<sup>3</sup>), the concentration of contaminants still will be well below the OSHA standard (5 mg/m<sup>3</sup>). No sensitive receptors will be exposed to substantial pollutant concentrations.

The bulk of excavation is limited to the soils at the adjacent Site 4 AOPCs 1A and 2A and the waste/soil material in Area 5 trenches of Site 7 which are considered to be moist due to their proximity to the wetlands and the Perimeter Pond. Therefore, dust emissions are not considered to be a concern during the excavation activities in these areas, hence, very little or no water is expected to be used for dust control during the excavation activities. The excavated and stockpiled soil is expected to remain relatively moist, so that there would not be any concern with dust control during the loading of the contaminated soils into waste hauling trucks for off-site disposal. Nonetheless, a water truck will be on-site at all times during the removal action activities to control potential dust emissions, for spraying haul roads, and for dust control during backfilling operations. In addition, air monitoring will be conducted to ensure compliance with the substantive requirements of SCAQMD Rules 404(b)(1)(A), 403, 404, and 405 relating to visible emissions, fugitive dust, and particulate matter emissions although permits are not required. The air will be monitored for dust upwind and downwind of the site to determine the dust emissions generated by the excavation. In the event of windy weather conditions when significant dust is produced during the excavation or the stockpiling activities, excavation will be halted, and the excavation area or stockpiles will be sprayed with water and/or covered with plastic, as appropriate. No earthwork will be conducted when wind speeds exceed 25 miles an hour. The mitigation measures under Rule 403 for Fugitive Dust, Tables 1, 2, and 3, will be implemented as project controls as applicable to the site conditions and are included as attachments to this document.

The project will not create objectionable odors that would affect a substantial number of people.

The nearest residence is approximately 400 feet due south of the proposed project. Air quality monitoring is planned on site as the removal action is being conducted. Air quality is not expected to be a problem as the site soil conditions are typically moist and prevailing wind direction is to the northeast away from the nearest residential area. Consequently, residential air monitoring is not proposed. As mentioned in response to Question 6, a water truck will be available to control dust emissions. The project will not create objectionable odors that would affect a substantial number of people.

Therefore, the project activities would not:

- a. Conflict with or obstruct implementation of the applicable air quality plan.
- b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- c. Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- d. Expose sensitive receptors to substantial pollutant concentrations.
- e. Create objectionable odors affecting a substantial number of people.
- f. Result in human exposure to Naturally Occurring Asbestos (see also Geology and Soils, f.).

*Specific References (list a, b, c, etc):*

SWDIV, 1995b; SWDIV, 2001

CH2MH, 2003

FWEC, 2003

California Air Resources Board- <http://www.arb.ca.gov/DRDB/SC/CURHTML/R403.HTM>*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☒ Less Than Significant Impact  
☐ No Impact

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**4. Biological Resources**

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*Project activities likely to create an impact:*

Planned project activities include removal of debris and supplementing existing earthen cover with additional soils, excavation, and temporary stockpiling of fill material.

*Description of Environmental Setting:*

EO No. 11990 requires that federal agencies minimize the destruction, loss, or degradation of wetlands; preserve and enhance the natural and beneficial value of wetlands; and avoid support of new construction in wetlands if a practicable alternative exists. Some areas of Site 7 and the adjacent Site 4 AOPCs 1A and 2A meet the definition of "wetland." The selected remediation contractor will include the substantive requirements of typical USACE 404 permits in their construction activities to prevent degradation and/or damage to the adjacent wetland areas.

The NWR System Administration Act of 1966 (16 U.S.C. Section 668dd-668ee) and its implementing regulations at 50 Code of Federal Regulations Sections 25-37 establish wildlife refuges that are maintained for the primary purpose of developing a national program of wildlife and ecological conservation and rehabilitation. These refuges are established for the restoration, preservation, development, and management of wildlife and wild land habitats; protection and preservation of endangered or threatened species and their habitats; and management of wildlife and wild lands to obtain the maximum benefit from these resources. The NWRS System Administration Act contains the following substantive requirements that are potential ARARs. The act prohibits any person from disturbing, injuring, cutting, burning, removing, destroying, or possessing any property within any area of a wildlife refuge. The act also prohibits the taking or possessing of any fish, bird, mammal or other wild vertebrate or invertebrate animals, or nest or eggs within any refuge area or otherwise occupying any such area unless such activities are done with a permit or permitted by express provision of law. The act also regulates the use of audio equipment as well as motorized vehicles, aircraft and boats in wildlife refuges. It prohibits construction activities, disposal of waste, and the introduction of plants and animals into any wildlife refuge. 42 USC, Section 9621(e) (1), CERCLA, Section 121(e) (1), exempts the DON response actions from any permits. However, the DON would generally be required, to integrate into the response as ARARs, any substantive requirements that would have been identified in any permit.

Approximately 700 feet of Site 7 extends into the Seal Beach NWR, and Site 4 AOPC 1A is located within the NWR. Although following the Site 4 removal action the excavation will be restored to surrounding grade using clean backfill material and revegetation with native plant species, the removal action could potentially disturb breeding Belding's savannah sparrows and light-footed Clapper rails that nest in the area. Both species' breeding seasons are from about March through August at NAVWPNSTA Seal Beach. As a project control, the removal action will be conducted outside the breeding season (September through February) to eliminate potential harm to the above-mentioned species. Approximately 911 acres of NAVWPNSTA Seal Beach, including almost all of the saltwater marsh, is included in the NWR. The ecological habitats at the NAVWPNSTA Seal Beach include open water, tidal channels, mud flats, and the salt marshes of Anaheim Bay. The main purpose of the NWR is to preserve and enhance the area's living resources. Scientific investigations have been and are being conducted on the NWR.

The vegetative community at Site 7, which is directly north of Site 4 AOPCs 1A and 2A, has been characterized as predominantly annual grassland east of the unpaved access road, and coastal salt marsh/mudflat west of the access road (in the NWR) (Recon, 1997). The grassland portions of Site 7 are a mixture of native species and invasive weedy plants, including grasses and forbes. Because of disturbances, patches of bare soil are common on Site 7 (SWDIV, 1995b). The following sensitive plant species have been observed at Site 7: southern tarplant (*Hemizonia parryi* ssp. *australis*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), and seaside calandrinia (*Calandrinia maritima*) (Recon, 1997).

Mammals observed at Site 7 include the house mouse and western harvest mouse (*Reithrodontomys megalotis*) (SWDIV, 1999a), the blacktail hare, cottontail, and California vole (*Microtus californicus*). Birds sighted include the mourning dove (*Zenaidura macroura*), barn owl (*Tyto alba*), California least tern (*Sterna antillarum browni*), Forster's tern (*Sterna forsteri*), rock dove (*Columba livia*), Cooper's hawk (*Accipiter cooperii*), red-tailed hawk (*Buteo jamaicensis*), turkey vulture (*Cathartes aura*), northern mockingbird (*Mimus polyglottos*), western meadowlark (*Sturnella neglecta*), and Belding's Savannah sparrow (*Passerculus sandwichensis beldingi*) (which nests throughout Site 7).

Seven species of birds known to be resident or migrants at NAVWPNSTA Seal Beach are listed by either federal or state agencies, or both, as threatened or endangered. They include the California brown pelican (*Pelicanus occidentalis californicus*), Swainson's hawk (*Buteo swainsoni*), peregrine falcon (*Falco peregrinus anatum*), Aleutian Canada goose (*Branta canadensis leucopareia*), western snowy plover (*Charadrius alexandrinus nivosus*), California least tern, and Belding's Savannah sparrow (Recon, 1997). Because of the rapidly disappearing habitat on the coast of Southern California, two species of federally listed endangered birds, the California least tern and the light-footed clapper rail (*Rallus longirostris levipes*), rely on the Seal Beach NWR tidal salt marsh habitat for their nesting grounds.

The NWR salt marsh ecosystem supports a wide diversity of organisms. The mixture of mud, sand, and silt in the tidal mud flats supports a variety of benthic species, including annelids, mollusks, crustaceans, and echinoderms. These tidal flats trap water that helps sustain large populations of California horn shell (*Cerithides californica*) and the striped shore crab (*Pachgrapsus crassipes*). Mussels, clams, and oysters also feed off the plankton carried through the marsh by the tide (NEESA, 1985). Many of these invertebrates are food sources for the birds that inhabit the area.

Several species of phytoplankton and zooplankton organisms can be found in the salt marsh. The tidal salt marsh also contains a diverse population of fish. Many species of fish use the shallow protected waters of the bays in the salt marsh for spawning and nursery grounds. Birds using the tidal salt marsh and adjacent areas include numerous species of shorebirds and waterfowl and several predators of those groups. In addition, the salt marsh is host to small mammals and reptiles. A variety of plant species also grows in and around the tidal salt marsh (SWDIV, 1995b).

Marine fauna in Perimeter Pond include deepbody anchovy, topsmelt, goby, horned snail, saltmarsh snail, striped shore crab, and various mollusks and polychaetes (SWDIV, 1995b). Along the western border of the site, mussels can be found attached to hard substrate (rocks and concrete debris) along the shoreline of Perimeter Pond.

The Department of Fish and Game Rarefind Natural Diversity Database October 27, 2003 report also lists some of the above-mentioned birds and plants as occurrences at the Seal Beach wildlife refuge. Among those included are the California least tern, Belding's savannah sparrow, light-footed clapper rail, southern tar plant, and Coulter's goldfields. In addition, *Cicindela gabbii*, the tiger beetle, has been cited at NWS Seal Beach. It inhabits dry, saline flats of estuaries and mudflats. The tiger beetle was last cited in 1979 and is presumed extant. This is only one of only four known extant populations. In 1970, 169 specimens were collected.

**Analysis of Potential Impacts.** Describe to what extent project activities would:

- a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Two executive orders (EO) in 1977 established policies for all federal agencies. EO 11990, Protection of Wetlands, required all federal agencies to "take action to minimize the destruction, loss or degradation of wetlands and enhance the natural and beneficial values of wetlands" while carrying out their responsibilities. EO 11998, Floodplain Management, required similar protection for floodplains, including avoiding activity in the floodplain when possible. In order to meet the substantive aspects of these EOs, site specific measures will be implemented to prevent adverse modification of wetland and flood plain habitat or function within the project area.

The DOD's contractor, Foster Wheeler, has an on-site biologist who is in the process of collecting biological data. The USFWS Manager, Mr. Bradley, will be advising the DOD contractor on the design for the trench two feet west

of Perimeter Pond where substantial bird populations are known to congregate in order to minimize impacts in that area. Field activity in this area will be subject to USFWS (Mr. Bradley's) approval. As a result, the proposed project will not result in net loss of jurisdictional wetlands or sensitive floodplain habitat. No permanent above-grade fills will occur within waters of the U.S., sub tidal or inter tidal zone areas. More specifically, within Area 5, the inter tidal habitat will be expanded resulting in a net gain of functional habitat within the project area. Floodplain and wetland features will be identified prior to initiation of remedial actions and staked /delineated on the ground to minimize impact to those areas to the maximum extent practical. Excavation activities will be conducted during low tide periods to avoid damage to wetland areas.

Once remedial actions are complete in temporary disturbance areas, the topography/contours of the affected areas will be restored to pre-remediation conditions to the maximum extent practical. Furthermore, the proposed temporary disturbance is not likely to affect existing surrounding hydrologic conditions. Any fill material required for project use will be clean, weed free, and consist of similar soil characteristics as that of the surrounding materials (color, texture, structure, function, and so forth). To the maximum extent practical, the topsoil and seed bank will be retained and segregated on site for reuse after remediation activities to assist with restoration. An on-site biologist will identify sensitive plant species. If those species are impacted, they will be replanted elsewhere at the project site at an appropriate location.

Additionally, the procedures described in the Hazardous Materials Section for spill prevention containment and control will be implemented to minimize the potential effects to surface waters resulting from unforeseen spill incidents. Site selection for project staging areas where hazardous materials and hazardous wastes may be present will consider and avoid jurisdictional and sensitive features to the maximum extent practical and transfer of liquids and refueling will occur only at approved locations. The site-specific measures described above will be implemented to prevent adverse modification of wetland and flood plain habitat or function within Area 5. At Area 1, the project involves the repair of the existing landfill soil cover. The minimum thickness of the soil cover will be two feet. Imported soil will be placed in locations where the cover is deficient to achieve the two-foot thickness. This additional thickness will prevent direct contact with buried waste and eliminate the potential migration of contamination through windblown dust and surface runoff. The top six inches of soil cover will consist of soil compost from IRP Site 5, which is currently stockpiled just north of IRP Site 7. The soil cover will be seeded with a mixture of native vegetation species. The intent of the project is to protect humans and habitat from contact or exposure of surface trash and debris.

The western portion of Site 7 and Site 4 AOPCs 1A and 2A lie in the Seal Beach NWR. In general, the NWR should be considered a sensitive ecological habitat because it provides essential habitat for a variety of avian species. In particular, Perimeter Pond, which abuts Area 5 of Site 7, originally was constructed to provide additional habitat for endangered species and other biota. Of the seven species of birds that are listed as endangered by either federal or state agencies and known to occur at NAVWPNSTA Seal Beach and the associated wetlands, the state-listed Belding's Savannah sparrow nests in the upland areas of Site 7 north of Perimeter Pond. Other species (including the California least tern and Aleutian Canada goose) have been observed and periodically may visit the site. Only temporary disturbance will occur along the eastern shore of Perimeter Pond. The disturbance will include excavating the eastern shore of Perimeter Pond to remove partially buried and buried debris. The area will be returned to original configuration by the placement and compaction of clean backfill material. Portions of the eastern part of Site 7 (outside the NWR) have been determined to qualify as wetlands. In addition, the results of past ecological assessments indicate that there is a potential threat to aquatic ecological receptors along the eastern shoreline of Perimeter Pond adjacent to Site 7. Surface soil samples collected from Site 4 AOPCs 1A and 2 along the southern extent of Site 7 show elevated lead concentrations at certain locations that may pose a potential threat to terrestrial wildlife. As discussed above, during project implementation, the DON will coordinate site activities with the USFWS and implement project controls to minimize potential impacts to endangered species in the affected areas.

The project may result in the removal of a few native plants that are present in Site 7 Areas 1, 2, 3, 4, and Site 4 AOPCs 1A and 2A. To avoid impacts, prior to commencement of debris removal activities, a survey of the affected vegetation habitat would be identified, relocated, and protected. After completion of the removal action activities, replanting would restore the vegetation habitat. The DON would coordinate with USFWS, U.S. Army Corps of Engineers (USACE), and California Department of Fish and Game (CDFG) during the removal action in this portion of the site to comply with the National Wildlife Refuge System Administration Act. The proposed removal action should have less than significant adverse effects on native and non-native plants, including those identified as sensitive species.

The overall project activities would prevent the exposure of wildlife to the buried refuse, surface debris, and potentially contaminated soil. This alternative would meet the requirements of the Endangered Species Act, the Migratory Bird Treaty Act, and CDFG Codes 2080, 2014, and 3005, which prohibit the taking or harassing of wildlife.

- b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

As stated previously, the western portion of Site 7 lies in the Seal Beach National Wildlife Refuge (SBNWR). To avoid impacts, the Site 7 Removal Action Work Plan addresses potential impact to the migratory birds. The breeding season at the SBNWR is typically between 31 March and 15 September. The implementation of the removal action will be timed to take place outside the breeding season to minimize potential harm or disturbance to endangered species. In addition, the removal action contractor has already consulted with the SBNWR Manager, Mr. John Bradley/USFWS. The SBNWR Manager will be informed of the construction schedule and dates prior to conducting any removal activities at the sites. The SBNWR Manager and the CDFG will be consulted prior to and during the implementation of the removal action to minimize adverse effects to threatened, endangered, or other protected species on site. The removal action will employ project controls to minimize potential threats to endangered species. As a result of the implementation of the removal action, exposure of wildlife to the buried refuse, surface debris, and potentially contaminated soil would be prevented. The purpose of the removal action is to reduce the potential for exposure of wildlife to the buried refuse, surface debris, and potentially contaminated soil.

- c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

An U.S. Army Corps of Engineers (USACE) jurisdictional determination was conducted at IRP Site 7 in 1996 consistent with the USACE Wetland Delineation Manual (WDM) (January 1987). The purpose of the determination was to identify and map the limits of any USACE waters of the U.S., including jurisdictional wetlands within the landfill site. The results of the study determined that wetlands exist within the limits of IRP Site 7. Portions of the eastern part of IRP Site 7 (outside of the SBNWR) have been determined to qualify as wetlands. A portion of IRP Site 4 AOPCs 1A and 2A is also located within a wetland. Though these sites contained wetlands, the USACE Los Angeles District Regulatory Branch indicated that they do not have jurisdictional authority over a designated CERCLA site and that a Section 404 permit is not required. However, the excavation activities will be conducted during low tide periods to prevent degradation or damage to wetland areas, and to ensure that project related activities do not result in a net loss of jurisdictional wetland habitat. In addition to timing remediation activities outside of predicted high tide events, further wetland protection, avoidance and restoration measures are explained in a. above. As stated in the Environmental Setting above, the selected remediation contractor will include in the performance of remediation activities, the substantive provisions of USACE 404 permits. These provisions may be viewed at the following web site:  
<http://www.epa.gov/OWOW/wetlands/40cfr/231.html#231.01>

The implementation of this removal action would result in minimizing impact to wetlands and improve conditions of remaining wetlands, to the extent practicable to comply with the requirements of the Protection of Wetlands (EO 11990). Only soil cover areas indicating less than 2 feet of soil cover, with no impacts to wetland or sensitive habitat, would be repaired by placement of additional soils. The NTCRA is expected to provide an overall beneficial impact to the site and the surrounding area as possible existing sources of contamination will be excavated or further covered to provide additional protection from landfilled wastes. Please also refer to the responses in a. and b. above. Measures will be taken to replant affected endangered plants, the habitat of affected birds and wildlife will be protected to the extent possible, and the breeding season of affected birds will be avoided as described above.

- d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

As described in a. and b. above, with consultation from the US Fish and Wildlife Service and the CDFG, the project activities will be planned so that impacts to wildlife will be avoided.

- e. Conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Trees will not be removed as part of the project plan. Other project controls have been described in a. and b. above.

- f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Please refer to the previous responses a. through e. above. Project controls will be employed with consultation from the CDFG and US Fish and Wildlife Service as described.

*Specific References (list a, b, c, etc):*

NEESA, 1985; Recon, 1997; SWDIV, 1995b; SWDIV, 2001; SWDIV, 1999a; SWDIV, 2000a  
CH2MHill, 2003;  
FWENC, 2003;

Department of Fish and Game, Natural Diversity Database, Seal Beach Quadrant, October 27, 2003;

Telephone consultation with Mr. John Bradley, USFWS, October 23, 2003.

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☒ Less Than Significant Impact  
☐ No Impact

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## 5. Cultural Resources

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*Project activities likely to create an impact:*

Planned activities include removal of debris and supplementing existing earthen cover with additional soils, excavation, and temporary stockpiling of fill material.

*Description of Environmental Setting:*

A site-specific archaeological and paleontological resources evaluation was conducted at Site 7. The resource evaluation included a locality (records) search and a surface reconnaissance of the area by a certified paleontologist and archaeologist. The evaluation was conducted to determine whether cultural or paleontological resources exist in the area and to determine if proposed test pit excavations associated with the cover soil thickness evaluation would impact such resources (RMW Paleo Associates, 1996).

Major findings of the archaeological evaluation indicated that the area has been extensively disturbed by former use of the area for agricultural and landfill operations. Although numerous archaeological sites are known in the local area, none have been recorded in the vicinity of Site 7 (RMW Paleo Associates, 1995). Marine shells were observed but appear to be natural deposits and not prehistoric artifacts. Because the landfill disposal operations at Site 7 reportedly began in 1955, its deeper levels may contain material of marginal historic value in understanding the Space Exploration eras. No further cultural resources research was recommended unless materials of apparent prehistoric or historic interest are exposed during excavation.

The paleontological evaluation indicated that the only site containing fossils near NAVWPNSTA was offshore approximately 15 feet from the shoreline of Seal Beach. No fossils were found during the surface reconnaissance or reported in the literature for the Site 7 area. In addition, the potential for exposing significant marine and terrestrial fossils is low due to the limited depths. Therefore, paleontological monitoring during fieldwork was not deemed necessary. However, it was recommended that if any fossil shells or bones were exposed during excavation, a certified paleontologist should be contacted.



A site-specific archaeological resources survey for Site 4 AOPCs 1A and 2A was conducted in 1994. No significant findings were reported for Site 4 AOPCs 1A and 2A (Accutek, 1994). Should unexpected, but significant, archaeological resources be encountered during the removal action, work will be halted until further evaluation is conducted.

#### Analysis of Potential Impacts.

Past archaeological and paleontological resources evaluations did not identify the presence of any cultural resources at Site 7 and Site 4 AOPCs 1A and 2A. It is, therefore, reasonable to conclude that no significant cultural resources are present at Site 7 or at Site 4 AOPCs 1A and 2A, and that the removal action can proceed without further evaluation (RMW Paleo Associates, 1996). If, during field operations, items of interest such as bones, fossils, or human artifacts of potential historical significance are uncovered, a paleontologist or archaeologist will be contacted. The excavation will resume after all necessary natural resources protective actions are taken.

The paleontological study indicated that the potential of exposing significant marine and terrestrial fossils appears to be low according to RMW Paleo Associates, 1995. Based on the findings of the RMW Paleo Associates paleontological study, the potential to disturb any human remains is low.

Therefore, project activities would not:

- a. Cause a substantial adverse change in the significance of a historical resource as defined in 15064.5.
- b. Cause a substantial adverse change in the significance of an archeological resource pursuant to 15064.5.
- c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- d. Disturb any human remains, including those interred outside of formal cemeteries.

#### *Specific References (list a, b, c, etc):*

RMW Paleo Associates, 1995; RMW Paleo Associates, 1996; SWDIV, 1996; Accutek, 1994

#### *Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☒ Less Than Significant Impact  
☐ No Impact

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## **6. Geology and Soils**

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#### *Project activities likely to create an impact:*

Planned activities include removal of debris and supplementing existing earthen cover with additional soils, excavation, and temporary stockpiling of fill material.

#### *Description of Environmental Setting:*

NAVWPNSTA Seal Beach is bordered to the southwest by Anaheim Bay and to the north, east, and west by highly developed urban communities. Most of NAVWPNSTA Seal Beach lies on relatively flat alluvial deposits that slope evenly from approximately 20 feet above sea level in the northeastern part of the facility, to sea level in the tidal salt marsh of the NWR in the southwest. The most pronounced topographic feature on NAVWPNSTA Seal Beach is part of Landing Hill on the southwest side of the facility. Landing Hill is uplift along the Newport-Inglewood Fault Zone that covers an area extending west of NAVWPNSTA Seal Beach across Seal Beach Boulevard. Landing Hill reaches a maximum elevation of about 50 feet above sea level on the facility.

NAVWPNSTA Seal Beach is located adjacent to the Pacific Ocean at the seaward edge of the Orange County Coastal Plain at the northwest corner of Orange County, California. The northwest-trending Newport-Inglewood Structural Zone (NISZ) underlies the southwestern half of NAVWPNSTA Seal Beach. The NISZ consists of a complex set of faults and folds that extend from Newport Beach approximately 10 miles southeast of NAVWPNSTA Seal Beach to Beverly Hills at

the base of the Santa Monica Mountains, approximately 30 miles northwest of NAVWPNSTA Seal Beach. Site 7 is located on (or near) the Seal Beach Fault, which is one of the faults that makes up the NISZ. Uplift along the NISZ has produced a line of low coastal hills and mesas near the southern end, including Landing Hill along the west edge of NAVWPNSTA Seal Beach. Adjacent to Landing Hill on the east is Sunset Gap, a wetland comprising coastal salt marsh and tidal mud flats.

Site 7 consists of an almost rectangular-shaped area with almost half of the 33 acres that compose Site 7 located in the southeastern portion of the NWR (immediately north of the OCFCC) in the southern part of NAVWPNSTA Seal Beach. A drainage ditch on the southeast corner of Site 7 served as an unlined flood control channel prior to the excavation of the OCFCC. Seawater floods the ditch during high tides, and fresh water flows into the ditch from the flood control channel during periods of high drainage.

An elevated, unpaved access road runs north-south through the middle of Site 7 and acts as a tidal barrier. The area west of the road becomes flooded during high tides and supports tidal salt marsh vegetation. Driftwood and other transported materials (natural and synthetic) are deposited along the western edge of the dirt road as the road forms the farthest extent of the tidal bore. The area east of the dirt road is not ordinarily submerged by tidal waters; therefore, it does not support tidal salt marsh vegetation. The soil is soft, fine-grained, and dry at the surface.

The site is relatively flat with elevations ranging from 2 to 8 feet above mean sea level. The greatest topographic relief is associated with the railroad spur and the unpaved access road through the site. The ground surface gently slopes to the south with numerous closed depressions (SWDIV, 1996). A nonuniform, nonengineered soil cover exists over the landfill. The landscape is dominated by native vegetation. No buildings or aboveground or belowground structures are located on the site.

Site 4 AOPCs 1A and 2A are a relatively narrow, linear area (approximately 5,400 feet of a 100-foot-wide area). Site 4 AOPC 1A is located within the NWR and AOPC 2A is located east of the NWR. The overall topography of Site 4 mimics that of NAVWPNSTA Seal Beach. The road is situated on a gently inclined topographic surface that drains to the southwest (toward the salt marsh). However, locally, the road surface is graded to drain into NAVWPNSTA Seal Beach. The southern portion of the site (where Site 4 AOPCs 1A and 2A are located) has been raised slightly to prevent tidal inundation. Field observations of the tidal flooding of the AOPCs suggest that groundwater in this area is shallow (generally assumed to be less than 10 feet bgs) (BNI, 2001). A grade difference of about 2 to 4 feet exists between the lower accumulation areas north of the road portions of Site 4 AOPCs 1A and 2A and the road itself.

The depth to groundwater at Site 7 was observed to range between 1 and 9 feet bgs during the November 1988 site inspection field activities, between 3 and 5 feet bgs during December 1993 RI field activities, and between 2 and 4 feet and 5 to 9 feet bgs for the February 1998 and July 1998 water-level monitoring events, respectively. According to a tidal influence evaluation conducted in August/September 1993, tidal fluctuations noticeably influence groundwater levels.

The mean groundwater gradient across Site 7, calculated based on 1993 water-level data, was approximately 0.002-foot/foot to the northeast. The average gradient for the February/March 1998 monitoring event was 0.001-foot/foot, while the average gradient across the site for the July 1998 monitoring event was 0.0025-foot/foot. The groundwater flow direction was to the southwest (approximate gradient of 0.001-foot/foot) during February/March 1998, towards the NWR, and to the southeast (approximate gradient of 0.004-foot/foot) and east (approximate gradient of 0.001-foot/foot) during July 1998, away from the NWR. The underlying shallow groundwater is saline to hypersaline (total dissolved solids [TDS] ranging between 24,000 and 57,000 milligrams per liter [mg/L]). Review of boring logs and cone penetrometer test (CPT) data provided lithologic information for Site 7. The subsurface lithology is predominantly clay and fine-grained silty clay to approximately 25 to 30 feet bgs, underlain by lenses of silty sand. A 2- to 5-foot bed of fine-grained silt, interbedded in the upper clay interval between 10 to 15 feet bgs, appears across most of the site (SWDIV, 1995b). Site 4 is situated in an area that is reportedly underlain by recent alluvial and coastal deposits (Morton and Miller, 1981). Additionally, lesser amounts of fill are present on some areas of Site 4 (BNI, 2001). Based on soil borings collected for the Removal Site Evaluation, there is indication of possible fill materials beneath portions of Site 4 AOPCs 1A and 2A.

Site 7 Station Landfill and adjacent Site 4 AOPCs 1A and 2A are located in the seismically active Southern California region. The major seismically active faults near the site are the Newport-Inglewood, Palos Verdes, Whittier-Elsinore, and San Andreas faults. The distance between the sites and the Newport-Inglewood fault zone is approximately 1,500 feet.

#### Analysis of Potential Impacts.

The Newport-Inglewood fault zone was used to evaluate the impact of seismicity. For landfills, California Code of Regulations (CCR) Title 27, Section 21750(f) (5) requires that seismic analyses be performed for the anticipated peak ground acceleration. Peak ground acceleration corresponds to the maximum probable earthquake (MPE) as defined in

California Division of Mines and Geology (CDMG) Note Number 43 (CDMG, 1975). The MPE has a return period of 100 years. For Site 7 Station Landfill, the peak ground acceleration for a 100-year return period was estimated to be 0.23-gravitational acceleration (g) (SWDIV, 1996). To account for the duration of ground shaking in the liquefaction analyses, a weighted earthquake magnitude of 7.0 was estimated to be the appropriate design earthquake.

The analyses of the CPT data indicate that some of the subsurface soil layers will liquefy during the design earthquake. The total thickness of these layers varies from 2 to 7 feet within the site. The layers are also found to be discontinuous from one CPT location to the other. Liquefaction-induced ground-surface settlements due to the design earthquake are estimated to be less than 2 inches for Site 7. Surface manifestations of liquefaction (such as ground cracking, horizontal deformation, and sand boils) are expected to be minimum to insignificant due to the limited thickness of liquefiable soil layers and the presence of nonliquefiable surficial layers. The differential settlements at the surface are estimated to be less than 1 inch. Since the liquefied soil layers from one location to another location are discontinuous, lateral spreading at the site due to the design earthquake is expected to be unlikely (SWDIV, 1996).

The topography of the sites is relatively flat with elevations ranging from 2 to 8 feet above mean sea level. There is no potential for landslides to occur. Substantial soil erosion or loss of topsoil is not anticipated to occur. A land survey will be conducted to determine the final extent of all excavations and the total amount of material excavated. This information will be used to determine the amount of backfill required to return the area to the approved, designed grading plan elevations.

The trenches in Area 5 will be excavated to approximately 6 feet bgs. Excavations will be cut vertically for the first 4 feet and thereafter sloped with a ratio of 2 feet horizontal to 1 foot vertical. Excavation of Site 4 AOPCs 1A and 2A is expected to be approximately 1 foot deep. Excavations deeper than 5 feet will require notification to California OSHA. All excavations will be conducted in accordance with California Health and Safety Code (HSC), CCR, Title 8, Sections 1539 through 1541, and Title 29, Code of Federal Regulation (CFR), Sections 1910 and 1926 to prevent collapse and/or cave-in. Daily inspections of excavations by a registered professional engineer also will be performed to assess the stability of the slopes and excavated areas.

Excavations will be backfilled using either clean (based on stockpile sample results) excavated and screened soil, or clean fill material obtained locally from an off-site source. Clean fill material obtained from off-site borrow source(s) will also be used for repairing the landfill cover at Area 1. In addition, soil material from IRP Site 5 will be used as topsoil for Area 1. Prior to delivery of any borrow soil material from off-site sources to the site, representative samples of the soil material will be tested to verify that it meets the backfill soil screening criteria. Backfill material will be placed in 12-inch loose lifts and compacted to a minimum of 90 percent of the maximum dry density as measured by the modified Proctor test [American Society for Testing and Materials (ASTM) D 1557]. A minimum of two in-place density tests will be performed for each lift placed in Area 5 at IRP Site 7 and Site 4 AOPCs 1A and 2A. One in-place, a density test will be performed for each 500 cubic yards of fill material placed in Areas 1, 3, and 4. The final 6 inches of backfill in Areas 3, 4, and 5, and the topsoil placed in Area 1 will not be compacted, but will be graded for site restoration and re-vegetated with native vegetation species approved by the SBNWR Manager. In IRP Site 4 AOPCs 1A and 2A, where shoreline reconstruction is required as a result of excavation activities, the reconstructed shoreline surface may be armored with riprap and geotextile for erosion protection as required.

Following the completion of backfill placement in Area 1, a field survey will be conducted to confirm a minimum of 2 feet of soil cover in Area 1 and that the actual final grades and elevations conform with those in the approved grading plan.

All work in the NWR areas will be conducted following consultation with the NWR Manager. Therefore, soils imported to the site as backfill and cap material are expected to sustain habitat for fish and wildlife. During construction, all excavations will comply with California OSHA requirements and stormwater pollution prevention control measures will be implemented in accordance with RWQCB National Pollutant Discharge Elimination System (NPDES) requirements.

Also refer to the analysis under item c. of section 8., Hydrology and Water Quality. Impacts to the area will be temporary.

Therefore, the project activities would not:

- a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. (Refer to

Division of Mines and Geology Special Publication 42).

- Strong seismic ground shaking.
  - Seismic-related ground failure, including liquefaction.
  - Landslides.
- b. Result in substantial soil erosion or the loss of topsoil.
- c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.
- d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.
- e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of water.
- f. Be located in an area containing naturally occurring asbestos (see also Air Quality, f.).

Specific References (list a, b, c, etc):

SWDIV, 2001; SWDIV, 1999b; SWDIV, 1996; SWDIV, 1995b

*Findings of Significance:*

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ☒ Less Than Significant Impact
- ☐ No Impact

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## 7. Hazards and Hazardous Materials

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*Project activities likely to create an impact:*

Planned activities include removal of debris and supplementing existing earthen cover with additional soils, excavation, and temporary stockpiling of fill material. Associated equipment required for the planned activities may also be sources of hazardous materials, such as a diesel- operated generator, gasoline, and lubricating oil used for trailer, construction equipment, and vehicles.

*Description of Environmental Setting:*

The project primarily involves the excavation, stockpiling, and transportation of soil mixed with trash and debris. The air will be monitored for dust, and excavation activities will cease before dust emissions become significant. Also refer to the "Analysis of Potential (Air) Impacts" in Item 3 above. Dust control measures, including water spray, will be implemented in accordance with the South Coast Air Quality Management District Rules as applicable to the site conditions.

Prior to commencement of intrusive activities, station utility maps will be reviewed and a geophysical utility survey will be conducted to locate buried utilities. Active utilities present within the area to be excavated will be evaluated to determine if the utility should be left in place, temporarily or permanently rerouted around the site, or decommissioned and removed. Manual methods of excavation will be employed in the vicinity of active utilities to be left in place.

Excavation, handling, stockpiling, and transportation of soil and debris at the removal action areas do not pose a significant risk to onsite workers or to the health and safety of the public.

The excavated soil will be classified for proper disposal based on stockpile sampling. All vehicles used by the project will be insured for liability, and they will be operated by appropriately licensed operators in accordance with state law. Trucks used to transport inert materials to an offsite recycling/disposal facility using registered transporters.

## Analysis of Potential Impacts.

The site removal action activities do not pose potential risk of exposure to the public or the environment because proper safety precautions, including dust control and precautionary vapor control technologies, will be necessary. The use of experienced personnel trained in the handling and excavation of hazardous materials also will help in greatly reducing such risk. These trained personnel will conduct the work in accordance with approved methods and procedures, as prescribed in the Removal Action Work Plan and Site Health and Safety Plan (SHSP).

All equipment will be decontaminated prior to leaving the site. Equipment decontamination records will be maintained for each piece of equipment. Decontamination procedures are presented in the SHSP.

The rinsate and wastewater generated from equipment decontamination will be collected and stored in 55-gallon drums. Drums containing decontamination water will be appropriately labeled with respect to contents and will be staged in a predetermined, secured area with secondary containment and spill control equipment. Weekly inspections of the drum storage area will be conducted and documented to ensure that drums are properly labeled, sealed, and in good condition. The wastewater will be sampled and analyzed to determine if it is a hazardous waste and then transported to an off-site permitted facility for treatment and/or disposal.

Heavy equipment will be decontaminated using heavy brushes to remove soil and dirt attached to the equipment surfaces. Special attention will be paid to removal of material on and within the bucket and undercarriage of the excavator. Tools and items for which decontamination is difficult or impossible to verify will remain on site until completion of the work for subsequent packing and off-site disposal at an approved disposal facility. Prior to removal from site, all decontaminated equipment and material will be inspected by professional staff.

The excavated soils and debris will be stockpiled on site. The soil excavated from IRP Site 7 will be stockpiled separately from the soil excavated from IRP Site 4 AOPCs 1A and 2A. The floor of the stockpile area will be covered with a 20-mil polyvinyl chloride (PVC) liner. A berm consisting of clean soil or sandbags and covered with 20-mil PVC liner will be constructed around the perimeter of the stockpile area in order to prevent surface water run-on from coming into contact with the contaminated stockpiled soil, to contain potentially contaminated runoff, and to prevent runoff from leaving the stockpile area. The stockpiled material will be covered with 6-mil PVC liner until final waste classification is made for off-site disposal.

State and federal regulations require waste generators to determine if a waste is hazardous. The impacted soil at IRP Site 7 (excavated from Areas 3, 4, and 5) and/or IRP Site 4 AOPCs 1A and 2A may potentially be classified as Resource Conservation and Recovery Act (RCRA) hazardous or non-RCRA California hazardous waste. The excavated material from Areas 3, 4, and 5 (from IRP Site 7) and all excavated material from IRP Site 4 AOPCs 1A and 2A will be representatively sampled and analyzed to determine the hazard classification prior to transport off site. The waste profiling (waste classification determination) will be based on the results of the soil sample analyses.

The soil is stable and not expected to ignite or cause an explosion. Due to the nature of the landfill site, methane will be monitored during the excavation. Adequate measures will be employed to prevent fugitive dust from being transported into nearby residential areas. As described in Item 6 (Geology and Soils) above, excavations will be sloped where necessary to prevent collapse and/or cave-in. A grading permit is not required for the project because the federal government is exempt under county ordinance, provided grading is supervised and inspected by a registered by a registered professional engineer as it will be. Excavated soils will be transported in accordance with Title 49 Code of Federal Regulations (CFR) and California Code of Regulations (CCR) Title 22.

Although excavation, backfill placement, and revegetation of the removal action areas will temporarily disrupt the local environment, the site will be restored to its original state in a relatively short period of time. The use of experienced personnel trained in the handling and removal of hazardous materials also will help in greatly reducing risk involving accident conditions related to the release of hazardous materials into the environment. The trained personnel will conduct the work in accordance with approved methods and procedures, as prescribed in the Removal Action Work Plan and SHSP.

There are no existing or proposed schools that exist within 0.25-mile of the project. The nearest school to the proposed project site is Harbour View Elementary School, which is located at 4343 Pickwick Circle, Huntington Beach, approximately 0.8 miles southeast of the project site.

The project is located on a site included on the list of hazardous materials sites. The proposed remedy will mitigate hazards at the site.

Emergency response procedures will be incorporated in the Removal Action Work Plan and Site Health and Safety Plan. Project activities will not impair implementation of, or physically interfere with, the base-wide emergency response plan or emergency evacuation plan. Also refer to the Transportation (Item 15.) analysis for further information on traffic controls and emergency access.

Therefore, the project activities would not:

- a. Create a significant hazard to the public or the environment throughout the routine transport, use or disposal of hazardous materials.
- b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school.
- d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to public or the environment.
- e. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

*Specific References (list a, b, c, etc):*

SWDIV, 2001;  
FWENC, 2003;

Department of Toxic Substances Control: <http://www.dtsc.ca.gov> (Calsites list of contaminated sites)

*Findings of Significance:*

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ☒ Less Than Significant Impact
- ☐ No Impact

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## **8. Hydrology and Water Quality**

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*Project activities likely to create an impact:*

Planned activities include removal of debris and supplementing existing earthen cover with additional soils, excavation, and temporary stockpiling of fill material. The location of the project and shallow groundwater conditions may impact site conditions during construction.

*Description of Environmental Setting:*

Shallow groundwater shows low levels and infrequent detections of COPCs including VOCs, SVOCs, pesticides, metals, asbestos, and cyanide. Results of the 10 rounds of shallow groundwater sampling do not indicate a plume of significant contamination. At Site 7, shallow groundwater was encountered between 3 and 5 feet bgs. The underlying shallow groundwater is saline to hypersaline with total dissolved solids ranging between 24,000 and 57,000 milligrams per liter and reasonably cannot be regarded as a drinking water source. It is unlikely that a connection exists between the shallow groundwater and the lower aquifer system –a deeper source of main drinking water. The lack of a verifiable plume and significant gas emissions at the Station Landfill site suggests that natural attenuation processes have been taking place actively over the last 25 to 50 years since the conclusion of landfilling operations. The wastes were buried in clays and

silty clays, which would tend to immobilize the metals, polycyclic aromatic hydrocarbons (PAHs), pesticides, and PCBs. Most VOCs are expected to have volatilized into the atmosphere or dissolved into rainwater and infiltrated to the groundwater. Over the course of 25 to 50 years, the effects of advective transport and dispersion on soluble compounds significantly would reduce their concentrations in oil and groundwater. Historic, seasonal, and tidal fluctuations of groundwater levels at Site 7 can enhance passive aerobic biodegradation because the subsurface soil matrix is alternately saturated and unsaturated. Particularly, the lack of gas emissions indicates that organic matter in the landfill has entered the final phases of degradation. The 10 major studies conducted at Site 7 since 1985 reveals that only the eastern shoreline of Perimeter Pond (Area 5) appears to be of moderate concern. This area involves possible risks to aquatic receptors due to the exposure of waste and tidal water seeps discharging from refuse buried along the east shoreline of Perimeter Pond.

The hydrology of Site 7 is affected by the presence of several nearby major surface water features.

These features include:

- NWR tidal salt marsh
- Mitigation ponds
- OCFCC
- Drainage ditch
- Seasonal ponding

The presence of these hydrologic features plays a significant role in the complex behavior of the groundwater hydrology at Site 7. The groundwater gradient at Site 7 can vary considerably depending on the changing contributions from the sources listed above.

Site 7 lies along the southeastern edge of the Seal Beach NWR. The salt marsh is flushed semi-diurnally with seawater from Anaheim Bay. During high tides, water flows through the inner harbor, beneath Pacific Coast Highway, and floods the tidal salt marsh via three major arms. Nearly the entire salt marsh becomes inundated during spring tides. Raised roadbeds serve as topographic barriers that control the extent of the tidal flooding of Site 7.

The east arm of the NWR supplies water via open channels to two mitigation ponds (Ponds 3 and 4). Mitigation Pond 3 is a dominating body of water that lies only about 600 feet to the northwest of Site 7. The eastern shore of Mitigation Pond 4 (also commonly referred to as Perimeter Pond) actually forms the western boundary of Site 7. The water levels in these two ponds vary by several feet in accordance with tidal fluctuations.

Site 4 AOPCs 1A and 2A include portions of Perimeter Road along the southern boundary of NAVWPNSTA Seal Beach. The southern portion of the site has been raised slightly to prevent tidal inundation.

Directly to the south of Site 7, opposite Perimeter Road, lies the OCFCC. The OCFCC drains an urban watershed of nearly 50,000 acres. At the point where the OCFCC abuts Site 7, the base of the channel is below mean seal level, has virtually no slope, and is unpaved. Seawater inundates the channel most of the time, extending about 4 miles up the channel. Except during rain events where accumulated surface runoff flows down the channel to the mouth of the NWR, the water within the channel is controlled by tidal fluctuations.

An unlined drainage ditch forms a portion of the southeast boundary of Site 7, and was a flood control channel for the City of Seal Beach prior to the construction of the OCFCC. The drainage ditch generally drains through a culvert to the OCFCC. At times, water flows from the OCFCC into the drainage ditch. During site visits, recent water-level monitoring, and previous investigations, water was observed entering the drainage ditch from the OCFCC during high tide, particularly when combined with heavy storms.

Rainwater tends to pond in the low-lying areas of Site 7. Pondered water, 1 to 3 feet deep, was observed covering more than half of Site 7 during the February/March 1998 water-level monitoring event. Note that this coincided with unusually heavy rains associated with an El Niño condition. Nevertheless, ponding to varying degrees has been observed at low-lying portions of Site 7 during seasonal winter storms. However, pondered water is usually nonexistent by summer.

The depth to groundwater at Site 7 and adjacent areas was observed to range between 1 and 9 feet bgs during the November 1988 site inspection field activities, between 3 and 5 feet bgs during December 1993 RI field activities, and between 2 to 4 feet and 5 to 9 feet bgs for the February 1998 and July 1998 water level monitoring events, respectively. Shallow soils at this site are predominantly fine silts interbedded with clay. The first relatively permeable zone occurs at approximately 10 to 15 feet bgs (SWDIV, 1995b). Reported CPT results indicate the permeable zones appear to be within the semiperched aquifers of the alluvium.

This uppermost groundwater in the semiperched aquifer of the alluvium appears to be affected by tidal influences and is sodium chloride in chemical character. Samples obtained from previously installed groundwater monitoring wells along the western boundary of Site 7 exhibited specific conductance values indicative of saline to hypersaline conditions.

Shallow groundwater shows low levels and infrequent detections of chemicals of potential concern (COPCs), including volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, metals, asbestos, and cyanide. Ten quarters of shallow groundwater sampling do not indicate a plume of significant contamination. At Site 7, shallow groundwater was encountered between 3 and 5 feet bgs. The underlying shallow groundwater is saline to hypersaline (TDS ranging between 24,000 and 57,000 mg/L) and cannot reasonably be regarded as a potential drinking water source. A connection between the shallow groundwater and the lower aquifer system (deeper main drinking water source) appears to be unlikely as presented in the site discussion above.

A Screening Aquatic Ecological Risk Assessment (ERA) was performed in December 1999 to address concerns of the presence of areas of discolored sediment adjacent to Perimeter Pond and discharges of water (seeps) from areas of exposed debris. The nature of the seeps along Perimeter Pond is somewhat dynamic. It is probable that voids in the refuse are filling with seawater during high tides and draining into the pond during falling and low tides. Sediment moving in and out of the seeps, the duration of flooding, and the rates of rise and fall of the tides probably affect the amounts of water moving in and out the refuse.

As part of the Screening Aquatic ERA, concentrations of chemicals in sediment, water, and mussel tissue collected from or near Perimeter Pond were compared with respective ecological screening values (sediment and water) or with statewide concentrations in mussel tissue in a screening risk analysis. Maximum values of some chemicals in some samples from all media exceeded screening risk levels but not by large amounts.

Based on sediment samples collected from 10 locations along the eastern shoreline of Perimeter Pond, low risks to sessile benthic invertebrates caused by silver, dichlorodiphenyl-trichloroethane (DDT) and metabolites, and Aroclor 1254 in sediment would occur at two locations: the southeast corner of the pond and an area near the exposed debris at the approximate center of the east shoreline. Aquatic organisms in the immediate vicinity of water seep(s) could intermittently be exposed to elevated concentrations of copper, lead, nickel, and zinc. Ecological risks from sediment and water were detected in localized (small) areas, and risks from contaminated mussels (as a surrogate for invertebrates in general) are similar to those in nearby embayments (Anaheim Bay and Huntington Harbour).

Excavation of the partially exposed and buried debris at Site 7 Area 5 would result in the removal of low levels of organic and inorganic chemicals that appear to be leaching to the adjacent Perimeter Pond. The groundwater monitoring program proposed as part of the removal action is intended to serve as a sentinel well network to monitor the potential for groundwater contamination migration from Site 7. These wells are strategically located between buried wastes in Areas 1 and 2 of Site 7 and the nearest potential aquatic receptors. Thus, these groundwater monitoring wells would serve as an early detection system.

#### Analysis of Potential Impacts:

Describe to what extent project activities would:

- a. Violate any water quality standards or waste discharge requirements.
- b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficient in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).
- c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or offsite.
- d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or offsite.
- e. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.
- f. Otherwise substantially degrade water quality.



- g. Place within a 100-flood hazard area structures which would impede or redirect flood flows.
- h. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.
- i. Inundation by seiche, tsunami or mudflow.

#### Analysis of Potential Impacts.

The overall project will not result in degradation of surface or groundwater quality, or depletion/degradation of groundwater supplies, and, in fact, should result in the long-term improvement of water quality by reducing the direct contact with buried waste. Although the regulations require measures to protect groundwater quality, the intent of the proposed project is to protect water quality by minimizing infiltration through the cover. The site conditions prohibit an effective cover system for this measure. The intent of the project is rather to protect humans and habitat from contact with or exposure to surface trash and debris. The proposed project will involve the construction of an engineered alternative cover design to the prescriptive cover design, as described in CCR Title 27, Section 20080 (b) and (c) on areas with deficient soil cover to provide for an effective cap thickness (two feet) that would reduce direct contact with buried onsite waste, as well as avoid destruction of wetlands and sensitive habitat, the removal of surface debris, and the excavation and offsite disposal of waste and waste residuals.

The removal action at Area 5 mainly requires excavation of two north-south oriented trenches containing waste (soil mixed with trash and debris) and sediment along the southeast corner of the pond. As soon as portions of the trenches are excavated, and the onsite engineer confirms that there is no more buried trash, the excavation will be backfilled. The western trench, which is located immediately adjacent to the Perimeter Pond, would be excavated during low tide to prevent any inundation. Sand bags, hay bails, and silt fencing also will be used to create a berm to prevent water from entering the excavated areas. All wastes, contaminated soil, and sediment generated by the excavation of the trenches will be hauled offsite in accordance with Title 49 CFR and CCR Title 22. After the excavation of the trenches is completed, the excavated areas will be backfilled with clean imported soil and/or those stockpiled soils determined to be clean by the soil characterization.

The removal action does not anticipate dredging of sediments. Excavation of saturated sediments will be minimized by scheduling excavation at low tides (when the Perimeter Pond surface water level is below the excavation zone). If excavation into the pond is more extensive than expected, the removal-action-contractor (RAC) plans to construct temporary berms and use other techniques to minimize the impact to the surface water quality of Perimeter Pond.

Project activities do not involve depleting groundwater supplies or interfering with groundwater recharge; therefore, no net deficient aquifer volume or a lowering of the local groundwater table level is anticipated. In addition, the aquifer underlying the removal action areas at NAVWPNSTA Seal Beach (Santa Ana Pressure Sub-basin) is classified as a Class III aquifer. This aquifer also is designated by the RWQCB Santa Ana Region as water that cannot be used for drinking due to the underlying shallow groundwater. The underlying groundwater is saline to hypersaline and yields less than 150 gallons per day. According to the Water Quality Control Plan for the Santa Ana River Basin, the Santa Ana Pressure Sub-basin is designated as having the following beneficial uses: municipal and domestic supply, agricultural supply, industrial service, and industrial process supply. These beneficial use designations are assigned to all areas of the sub-basin. The RWQCB recognizes, however, that the uppermost groundwater zone in this area is unlikely to be used as a source of drinking water, because of its poor mineral quality and low yield.

The project will not result in the alteration of the existing drainage pattern of the site or area. No changes to riparian land, rivers, streams, watercourse, or wetlands are anticipated. Therefore, no increases are anticipated to the rate or amount of surface water runoff that will incur substantial erosion or siltation or flooding onsite or offsite during implementation or completion of project activities. Project activities will avoid previously identified wetlands in the removal action areas from being altered by repairing only those areas deficient in soil cover. Additional measures of the removal action activities will include removal of surface debris and excavation and backfill of buried waste to eliminate contact with surface water runoff. The eastern shore of Perimeter Pond will be excavated to remove partially buried and buried debris, but the pond will be returned to original configuration by the placement and compaction of clean backfill material. No drainage structures or modifications to the existing drainage conditions are proposed.

To address erosion controls during field activities, a Stormwater Pollution Prevention Plan (SWPPP) is being prepared by Foster Wheeler Environmental Corporation (FWEC). The SWPPP addresses the erosion control measures during field activities for this removal action. Erosion prevention will include constructing berms where necessary to divert water away from the excavations, contaminated stockpiled soils, and trash. The Work Plan prepared by FWEC addresses run-on and

runoff control and erosion control for stockpiled waste, which includes constructing lined berms around the stockpiles and covering the impacted soil with 10-mil polyvinyl chloride (PVC) liner. The berms will be constructed with sandbags or clean soil. Runoff from the work area will be controlled by containing it within the work area. Runoff is not considered to be a significant problem for this project because most of the excavations will be conducted below the existing ground elevations. Excavated soil and waste material that is classified as hazardous waste will be temporarily staged on 20 mil polyethylene liners pending off-site disposal. Waste staged on site will be protected from run-on and runoff and will be covered to prevent wind dispersion in accordance with the SWPPP and the Best Management Practices. Wastes will be transported in accordance with Title 49 CFR and CCR Title 22. Therefore, any water encountered during excavation will be contained within the excavated area.

The project will not result in the alteration of the existing drainage pattern of the site or area. Therefore, no increase to the rate or amount of surface water runoff that would result in flooding onsite or offsite is anticipated.

The project does not propose new or additional drainage facilities and will not impact existing drainage features. Therefore, the creation of or contribution to runoff water by the project would not cause a significant change in the capacity of the existing drainage system or produce substantial additional sources of polluted runoff.

No structures are proposed for the project. Therefore, impedances or redirection of flood flows caused by the project is not anticipated.

The project is not located in an area nor does it include activities that will cause significant risk of loss, injury, or death due to flooding as a result of the failure of a levee or dam.

The site location will not result in inundation by seiche, tsunami, or mudflow.

Therefore, the project activities would not:

- a. Violate any water quality standards or waste discharge requirements.
- b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficient in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).
- c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off-site.
- d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off-site.
- e. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.
- f. Otherwise substantially degrade water quality.
- g. Place within a 100-flood hazard area structures which would impede or redirect flood flows.
- h. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.
- i. Inundation by seiche, tsunami or mudflow.

*Specific References (list a, b, c, etc):*

CH2MHill, 2003;  
SWDIV, 1995b; SWDIV, 1999b; SWDIV, 2000a; SWDIV, 2001;  
FWENC, 2003

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☒ Less Than Significant Impact  
☐ No Impact

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## 9. Land Use and Planning

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*Project activities likely to create an impact.*

Planned activities include removal of debris and supplementing existing earthen cover with additional soils, excavation, and temporary stockpiling of fill material.

Institutional controls in the form of land use restrictions to protect the landfill at Site 7 and to prevent transfer of the property.

*Description of Environmental Setting:*

Site 7 is the location of the Station Landfill. The western portion of Site 7 and Site 4 AOPC 1A lie within the Seal Beach NWR. The eastern portion of Site 7 and Site 4 AOPC 2A lie outside the Seal Beach NWR and partially coincide with the explosives safety quantity distance arcs that restrict the presence of buildings. Therefore, no buildings or aboveground or belowground structures are located on the removal action areas and none are planned for future land use. Except for using the perimeter road for patrolling, no regular NAVWPNSTA activities take place at the removal action areas.

A railroad spur that is infrequently used forms the northern boundary of Site 7. The land use to the immediate north of the railroad spur is set aside for the NWR and agricultural farm lands. The land use to the immediate east of the site is agricultural farm land. The land use to the immediate south is the OCFCC and the Huntington Harbour. Huntington Harbour is a commercial development that is part of the City of Huntington Beach. It consists of 260 boat slips, park facilities, a marine repair yard, a boat launch, harbor patrol office, and public picnic areas. The land use to the immediate west is reserved for the NWR.

Institutional controls in the form of land use restrictions are necessary to prevent unacceptable risk to human health from potential contact with residual contamination, prevent groundwater use that may be affected by soil contamination, protect monitoring equipment, and preserve access to the sites and associated monitoring equipment for the DON and FFSRA signatories. In addition, land use restrictions are necessary to protect the integrity of the landfill remedy and to prevent land transfer for inappropriate uses of the property.

*Analysis of Potential Impacts.*

The site no longer will be used for landfilling operations, and future use will be consistent with the surrounding land use. The project will not result in changes to the existing city zoning, nor require deed restrictions.

As stated above, institutional controls, in the form of land use restrictions will be applied to the property to prevent uses that would endanger the public health and that would protect the landfill remedy. Appropriate deed restrictions will be filed upon completion of the work.

The DON, with state regulatory oversight, is the lead agency for project controls for potential environmental impacts from Site 7. As the lead agency, the DON has final approval authority of the recommended alternative selected and overall public participation activities with state concurrence. The DON is working cooperatively with DTSC, California RWQCB Santa Ana Region, California Integrated Waste Management Board (CIWMB), and USFWS in the implementation of this removal action. Therefore, conflicts with applicable habitat conservation or natural community conservation plans are not anticipated.

Describe to what extent project activities would:

- a. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

The DON is working cooperatively with the US FWS to minimize impacts to the area. Land Use Restrictions will apply as described above to protect the public health.

- b. Conflict with any applicable habitat conservation plan or natural community conservation plan.

As stated above, institutional controls, in the form of land use restrictions will be applied to the property to prevent uses that would endanger the public health and that would protect the landfill remedy. Appropriate deed restrictions will be filed upon completion of the work.

*Specific References (list a, b, c, etc):*

CH2MHill, 2003;  
SWDIV, 2001

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☒ Less Than Significant Impact  
☐ No Impact

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## 10. Mineral Resources

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*Project activities likely to create an impact:*

Planned activities include removal of debris and supplementing existing earthen cover with additional soils, excavation, and temporary stockpiling of fill material.

*Description of Environmental Setting:*

The only natural resources the project activities will consume is the fuel needed to operate heavy equipment (excavation and backfill placement equipment) and other vehicles (trucks) that will be used to haul excavated soils containing debris and trash from the site. Fuel consumed by project equipment and vehicles consists primarily of diesel fuel (a petroleum product derived from the refining [distillation] of crude oil). Approximately 6,000 to 8,600 gallons of diesel fuel will be required for onsite excavation and backfill placement operations.

*Analysis of Potential Impacts.*

The potential for recovering natural resources, such as natural gas, crude oil, or minerals, does not exist at the site. The only natural resources that will be consumed by the project will be approximately 6,000 to 8,600 gallons of diesel fuel. This fuel will be supplied to the site on an as-needed basis and pumped directly from the fuel delivery tanker truck (usually a 5,000 gallon truck into the equipment fuel tank. The project will not increase the rate of use, nor contribute to depletion of natural resources in a substantial way.

The removal action areas are not locally important mineral resource recovery sites.

Describe to what extent project activities would:

- a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

- b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

*Specific References (list a, b, c, etc):*

SWDIV, 2001

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☒ Less Than Significant Impact  
☐ No Impact

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## 11. Noise

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*Project activities likely to create an impact:*

Planned activities include removal of debris and supplementing existing earthen cover with additional soils, excavation, and temporary stockpiling of fill material. Generation of dust and pollution created by vehicle traffic due to construction activities.

*Description of Environmental Setting:*

The closest buildings to the site are those associated with Huntington Harbour of the City of Huntington Beach. The closest of these facilities is about 500 feet directly south of Site 7 and across from the OCFCC. The nearest buildings on NAVWPNSTA Seal Beach are about 800 feet northwest of Site 7 and are used by the Ordnance Department.

Construction equipment will include a diesel-driven backhoe or an excavator, a front-end loader, dump trucks, a dozer, and a compactor. Excavation, stockpiling, loading, and transport activities are expected to last approximately 3 months. The noisiest part of the project will involve the earthwork (clearing the site, cover placement, and excavating). The measured noise level for this type of work is typically in the range of 100 to 105 decibels (dB) at a distance of 1 meter from the noise source. California/OSHA regulations, Title 8, CCR, Section 5096, limits workers exposed to 85 dB to an 8-hour work period. United States Environmental Protection Agency (EPA) has identified a level of 55 dB as adequate to protect outdoor activities against interference and annoyance due to noise. This level will permit spoken conversation and other activities such as sleeping, working, and recreation, all of which are parts of the daily human condition. The nearest residence is 400 feet away from the site.

*Analysis of Potential Impacts.*

The construction activities will be conducted four days per week from 6:30 a.m. until 4:30 p.m., for no more than 10 hours per day or 40 hours per week. Heavy equipment will be operating an average of 75% of the time during those hours. There will be limited equipment at the site during the removal activities. The equipment will include a track-mounted excavator, a wheel-loader, two or three 10-cubic-yard dump-trucks, a small dozer (CAT D5), and a small backhoe. This equipment may be used simultaneously part of the time. Whenever construction activities are in progress, noise monitoring will be conducted to ensure noise levels do not become a nuisance. Construction noise from similar types of equipment at a distance of 400 feet (the distance between the site and nearest residence) will be comparable to common background levels in the order of 45 decibels or lower. By comparison, the sound of hissing wind through tree leaves is about 30 to 35 decibels. The Special Noise Ordinance of section 4-6-7(e) for Orange County provides that "Noise sources associated with construction, repair, remodeling, or grading of any real property, provide said activities do not take place between the hours of 8:00p.m. and 7:00 a.m. on weekdays, including Saturday or at any time on Sunday or a Federal holiday are exempt from the 55 maximum decibel noise level for Zone 1 (residential areas). Project noise impacts to residences will be attenuated by distance (400 feet). Noise impacts will be temporary and time-limited.

Given the amount of soil and debris to be excavated and transported and the time allotted for the project, the construction equipment that will be used on this project will be relatively small. The construction phase of the project will increase the ambient noise levels on and immediately adjacent to the site.

Noise monitoring will be conducted during construction activities. Workers will be required to wear hearing protection when noise levels from operating equipment exceed 85 dB. All personnel exposed to noise greater than 85 dB will be enrolled in a hearing conservation program.

Therefore, the project activities would not:

- a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- b. Exposure of persons to or generation of excessive groundbourne vibration or groundbourne noise levels.
- c. A substantial permanent increase in ambient noise levels in the vicinity above levels existing without the project.
- d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

*Specific References (a, b, c, etc):*

SWDIV, 2001; SWDIV, 1995b

Planning and Development Services Department, County of Orange County Municipal Code, Division 6, Noise Control, Article 1., Section 4-6-7(e).

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☒ Less Than Significant Impact  
☐ No Impact

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## **12. Population and Housing**

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*Project activities likely to create an impact:*

There are no project activities that encroach upon a housing or populated area.

*Description of Environmental Setting:*

There are no workers or housing areas in the immediate proximity of the removal action areas. The nearest such activities are those associated with the Huntington Harbour located south of the site, outside the fence line of NAVWPNSTA Seal Beach, and across the OCFCC. These activities do not cross into removal action areas.

*Analysis of Potential Impacts.*

The population of NAVWPNSTA Seal Beach is determined by the staffing needs of the defense missions assigned there. Construction of activities will not induce regional or local population growth; therefore, adopted regional or local population projections will not be cumulatively exceeded and no impacts would occur.

The project will not alter the location, distribution, density, or growth rate of the human population. The project will not affect existing housing nor will it create a demand for additional housing. The proposed project is not considered an extension of existing major infrastructure in the area and will not induce substantial growth. Therefore, no impacts will occur.

The proposed project will be constructed and contained within NAVWPNSTA Seal Beach and within the limits of the removal action areas. Existing housing that surrounds the site will not be displaced.

Therefore, the project activities would not:

- a. Induce substantial population growth in the area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
- b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.
- c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

*Specific References (list a, b, c, etc):*

CH2MHill, 2003;  
SWDIV, 2001

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☐ Less Than Significant Impact  
☒ No Impact

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### 13. Public Services

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*Project activities likely to create an impact:*

Planned activities include removal of debris and supplementing existing earthen cover with additional soils, excavation, and temporary stockpiling of fill material.

*Description of Environmental Setting:*

The need for public services is dependent on the local population. The work force at NAVWPNSTA Seal Beach, and hence the population in the surrounding areas, is dependent on the strategic policies of the Department of Defense (DoD), the defense missions assigned to military bases, and the level of staffing needed to carry out the missions assigned to a particular base. The public services surrounding NAVWPNSTA Seal Beach include: J. H. McGaugh Elementary School, Long Beach Community Hospital, Los Alamitos Medical Center, Seal Beach Police Station, and Seal Beach Fire Department.

Analysis of Potential Impacts.

The localized construction-related impacts associated with the proposed project will not affect demand for fire or police protection services or the ability for these services to respond to emergency situations. Since the project will not increase the permanent work force at NAVWPNSTA Seal Beach, or affect the population in the surrounding area, public services such as fire and police protection, schools, roads, and hospitals and other medical facilities will not be impacted. The number of personnel involved in the project may range from 10 to 15 persons during the field activities for a period of approximately 4.5 months. These impacts are limited and temporary.

Therefore, the project activities would not:

- a. Result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:
  - Fire protection
  - Police protection
  - Schools

- Parks
- Other public facilities

*Specific References (list a, b, c, etc):*

CH2MHill, 2003;  
SWDIV, 2001

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☐ Less Than Significant Impact  
☒ No Impact

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#### **14. Recreation**

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*Project activities likely to create an impact:*

Planned activities include removal of debris and supplementing existing earthen cover with additional soils, excavation, and temporary stockpiling of fill material.

*Description of Environmental Setting:*

There are no recreational areas in the immediate proximity of the removal action areas. The nearest such activities are those associated with the Huntington Harbour located south of the site, outside the fence line of NAVWPNSTA Seal Beach, and across the OCFCC. These activities do not cross the removal action areas.

Analysis of Potential Impacts.

The project will have no impact on the existing neighborhood and regional parks or other recreational facilities. There are no recreational uses of the removal action areas. There are no recreational uses of the removal action areas. The project will not impact the quality or quantity of existing recreational opportunities in the surrounding areas.

Therefore, the project activities would not:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Include recreational facilities or require construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

*Specific References (list a, b, c, etc):*

SWDIV, 2001

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☐ Less Than Significant Impact  
☒ No Impact

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#### **15. Transportation and Traffic**

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*Project activities likely to create an impact.*

Planned activities include removal of debris and supplementing existing earthen cover with additional soils, excavation, and temporary stockpiling of fill material. Project activities will create increased traffic due to construction.

*Description of Environmental Setting:*

The majority of vehicular traffic entering and exiting NAVWPNSTA Seal Beach is from Westminster Boulevard through Gate 9 (Contractor's Gate). This gate is controlled by a traffic signal. Approximately 500 vehicles per day enter and exit NAVWPNSTA Seal Beach through Gate 9. Westminster Boulevard is a four-lane east-west thoroughfare that divides NAVWPNSTA Seal Beach into northern and southern sections. Westminster Boulevard intersects Seal Beach Boulevard, which is a six-lane north-south thoroughfare that defines the western boundary of NAVWPNSTA Seal Beach, and provides access to and from Interstate 405 to the north.

Construction personnel and equipment required for the project will enter and exit the NAVWPNSTA Seal Beach through Gate 9. After entering the gate, project vehicles will travel within the station to the jobsite. Site 7 is located south of 9<sup>th</sup> Street and Marshalling Yard, and is adjacent to the Perimeter Road and north of the OCFCC. Access to the site from Gate 9 is along Kitts Highway, to Bolsa Avenue and 9<sup>th</sup> Street. There are no other traffic restrictions on these roadways except for the posted speed limits of 40 mph on Kitts Highway and 25 mph on Bolsa Avenue and 9<sup>th</sup> Street. Trucks hauling waste material for offsite disposal will use Gate 9 located on Westminster Avenue to exit NAVWPNSTA Seal Beach. The trucks will travel east on Westminster Avenue to Bolsa Chica Road, then go north on Bolsa Chica Road to enter Interstate 405. Trucks hauling contaminated waste material for offsite disposal will not be allowed to travel on Seal Beach Boulevard.

*Analysis of Potential Impacts.*

Assuming a 28-day transportation period, the total of truck loads per day is expected to be approximately 20. The truck loads for bringing imported backfill to the site is expected to be approximately 20 per day. Approximately 180 -23-ton capacity truck loads will be used for hauling waste off site for disposal. Waste will be stockpiled and hauled in one event. Waste volume from the excavation of the Site 7 area is estimated to be 3,500 cy; waste volume from the excavation of the Site 4 (AOPCs 1A and 2A) could be as much as 2800 cy. The idling time for trucks can vary from 15 to 20 minutes. However, both activities will have separate timelines. The project will have a temporary time-limited effect. Consequently, the impact will not be cumulative. Vehicular traffic on base, to and from NAVWPNSTA Seal Beach Gate 9 is estimated to increase by 3 percent for 28 days; therefore, the increase in flow of traffic on and off NAVWPNSTA Seal Beach is not expected to be significant.

Truck Traffic from NAVWPNSTA Seal Beach will be from Gate 9 via Westminster Boulevard, then north on Bolsa Chica Road to Interstates 405 and 22. The traffic will be limited to these routes and will occur between the hours of 9:00 a.m. and 4:00 p.m. Truck traffic during these hours will not pose a significant impact to the level of service standard established by the City of Westminster for the proposed traffic route and durations (Personal Communication, 2002).

During the fieldwork, NAVWPNSTA Seal Beach will host a variety of traffic consisting of trucks delivering equipment and materials, personnel and support vehicles, and trucks transporting wastes on and off NAVWPNSTA Seal Beach. The project activities will include traffic at various times and will be assessed on a daily basis, since the exact times of the traffic cannot be defined prior to the start of fieldwork. The project team will maintain close coordination with the Resident Officer in Charge of Construction (ROICC) regarding all project-related traffic within the NAVWPNSTA Seal Beach in order to ensure safety and minimize impact to other activities being performed at NAVWPNSTA Seal Beach. A schedule of proposed traffic locations and times will be reviewed with the ROICC during the CQC meetings.

Workers commuting to and from the site will use Gate Number 9, located on Westminster Avenue and will proceed to the construction office from the main gate on Kitts Highway to Bolsa Avenue, to 9<sup>th</sup> Street, pass the Marshalling Yard, to the Perimeter Road on the south. When leaving the site, workers will use the same route as they entered in reverse. During the project, commuting workers will utilize an estimated average of 15 vehicles per day. In addition, the schedules for the delivery and transportation of equipment and materials will be planned in a manner to minimize interference with the normal traffic pattern in the area. An effort will be made to schedule the trucks to avoid the peak traffic flow hours of 6:30 a.m. to 7:30 a.m. and 3:30 p.m. to 4:30 p.m. Trucks of various capacities (some which may exceed 20 tons) will be entering and exiting the site.

Due to the limited duration of construction activities, the impacts to transportation or traffic pattern are expected to be insignificant. Heavy construction equipment such as front-end loaders, excavators, and other support vehicles will remain at the site for the duration of the field activities after initial mobilization. This equipment will not leave the site until such time as they are no longer needed. Vehicles used for commuting will be parked in designated areas. The project work plan provides the following conditions to mitigate potential impacts:

If the construction operations create potential hazardous conditions to traffic or the facility personnel and tenants, FWENC will furnish, erect, and maintain the necessary measures such as fences, temporary railing, barricades, lights, signs, and other devices, and take such other protective measures as necessary to prevent accidents or damage or injury to facility personnel. Flagmen will also be furnished as necessary to give adequate warning to traffic or to facility personnel and tenants of any dangerous conditions to be encountered.

No materials or equipment will be stored where it will interfere with the free and safe passage of facility personnel and tenants. At the end of each day's work and at other times when construction operations are suspended for any reason, FWENC will remove all equipment and other obstructions from that portion of the roadway for use by facility and tenant traffic. In addition, FWENC will adhere to all facility speed limit requirements.

Traffic controls will be utilized to provide for the efficient completion of the work activities in a safe working environment while minimizing the impact on the normal traffic flow. Traffic controls will be required during removal activities in the excavation and stockpile areas to provide for equipment operation and truck loading for off-site transportation. Traffic controls will include the following:

- Traffic flow will be maintained at all times during the project construction activities on through roads.
- Loading and transport of wastes will be scheduled during off-peak hours to minimize disruptions to NAVWPNSTA Seal Beach traffic.
- Transportation demand management strategies such as car/van pool for construction workers will be encouraged.
- End dumps and other transport trucks removing debris from the project sites will be scheduled to avoid queuing along major streets. Close coordination between FWENC site superintendent and the truck dispatcher will be maintained at all times during loading and unloading activities.
- Sufficient area will be provided to park all passenger vehicles onsite in the support area and haul trucks in the site.
- Cones, flags, signs, and other traffic control measures will be used, as needed, to facilitate loading and unloading.

In order to prevent congestion of the access roads during loading and hauling operations, no more than three trucks will be allowed to queue along any street. All traffic control activities will conform to the applicable specifications of the *State of California Manual of Traffic Controls for Construction and Maintenance Work Zones* [California Department of Transportation (Caltrans), 1996] and will be approved by the DON.

On-street parking will be prohibited as necessary for all vehicles associated with the construction activities throughout the project area in order to maintain normal access and clear lanes. During non-construction periods, non-applicable signs will be covered with black plastic or temporarily removed.

Other project-specific measures will be used to minimize the impacts of the proposed construction activities. These measures include the following:

- Ensure that proper design geometrics are applied at the access driveways and all internal streets to accommodate trucks and fire apparatus.
- Provide adequate turning radius in all areas, for example loading areas near the stockpile areas.
- Maintain traffic flow at all times during project construction.

Access to the project will be via existing roads and will not require new design features. Use of existing roads and streets is compatible with added traffic associated with the project. Therefore, the project will not increase traffic hazards. The project will not impair emergency access or parking capacity.

The project will not affect policies, plans, or programs that support alternative transportation.

Describe to what extent project activities would:

- a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).
- b. Exceed, either individually or cumulatively, a level of service standard established by the country congestion management agency for designated roads or highway.
- c. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- d. Result in inadequate emergency access.
- e. Result in inadequate parking capacity.
- f. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

*Specific References (list a, b, c, etc):*

SWDIV, 2001; FWENC, 2003

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☒ Less Than Significant Impact  
☐ No Impact

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## **16. Utilities and Service Systems**

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*Project activities likely to create an impact:*

Planned activities include removal of debris and supplementing existing earthen cover with additional soils, excavation, and temporary stockpiling of fill material.

*Description of Environmental Setting:*

During the construction phase of the project, the main demand for energy will be from excavation and soil-moving equipment and vehicles (trucks). As discussed in Item 7 (Natural Resources) above, this demand will be satisfied by diesel fuel. Electrical power requirements for an onsite construction trailer will be provided by Southern California Edison through the existing power supply system that provides electrical power to NAVWPNSTA Seal Beach and/or by a portable generator.

Utilities for the project will include electricity, potable water, and telephone services, all of which currently are available at NAVWPNSTA Seal Beach. The project does not anticipate the need to use the sanitary/industrial sewers or storm drainage systems.

Prior to commencement of intrusive activities, station utility maps will be reviewed and a geophysical utility survey will be conducted to locate buried utilities. Active utilities present in the area to be excavated will be evaluated to determine if the utility should be left in place, temporarily or permanently rerouted around the site, or decommissioned and removed. Manual methods of excavation will be employed in the vicinity of active utilities to be left in place.

Analysis of Potential Impacts.

The project is not expected to discharge to the sanitary/industrial sewers. Therefore, no impacts to the wastewater treatment facilities are anticipated. The project will not require the expansion of existing or construction of new water and wastewater treatment facilities. The project is not expected to discharge to the storm drainage systems, and it will not require the expansion of existing or construction of new stormwater drainage facilities or expansion of existing facilities.

The existing NAVWPNSTA Seal Beach water supply will be adequate to provide the water needs of the project. The water needs of the project are estimated to be approximately 16,000 to 24,000 gallons, which is calculated based on using an average of 300 gallons of water per day for 60 to 80 days.

An estimated 3,100 to 10,000 tons of waste and debris may be generated as a result of the excavation of the wastes in Areas 3, 4, 5, 6, and Site 4 AOPCs 1A and 2A requiring offsite transportation and disposal. The excavated waste (soil mixed with trash and debris) will be transported to an approved waste disposal facility for disposal.

Because the project involves implementing appropriate removal action activities for the Site 7 Station Landfill, applicable or relevant and appropriate requirements have been identified in the Engineering Evaluation Cost Analysis (EE/CA). The project will comply with federal, state, and local statutes and regulations related to solid waste. Wastes will be transported in accordance with 49 CFR and CCR Title 22. Trucks transporting soils will be covered with tarps.

Therefore, the project activities would not:

- a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.
- e. Result in determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the providers existing commitments.
- f. Be served by a landfill with sufficient permitted capacity to accommodate the projects solid waste disposal needs.
- g. Comply with federal, state, and local statutes and regulations related to solid waste.

*Specific References (list a, b, c, etc):*

SWDIV, 2002

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☒ Less Than Significant Impact  
☐ No Impact

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## 17. Mandatory Findings of Significance

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### Analysis of Potential Impacts

Describe to what extent project activities would:

- a. Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.

The project involves the repair of the existing landfill soil cover. The minimum thickness of the soil cover will be two feet. Imported soil will be placed in locations where the cover is deficient to achieve the two-foot thickness. This additional thickness will prevent direct contact with buried waste and eliminate the potential migration of contamination through windblown dust and surface runoff. The top six inches of soil cover will consist of soil compost from IRP Site 5, which is currently stockpiled just north of IRP Site 7. The soil cover will be seeded with a mixture of native vegetation species. The cap will reduce direct contact with buried onsite waste and avoid destruction of wetlands and sensitive habitat. The objective of this cover design is to prevent direct contact with receptors to eliminate the migration of potential surface contamination through windblown dust or surface runoff and/or to prevent ponding of surface water runoff. The intent of the project is to protect humans and habitat from contact or exposure of surface trash and debris. Groundwater monitoring will be performed at Site 7 subsequent to the project activities to monitor chemicals of concern and potential releases from the landfill.

The western portion of Site 7 and Site 4 AOPCs 1A and 2A lie in the Seal Beach NWR. In general, the NWR should be considered a sensitive ecological habitat because it provides essential habitat for a variety of avian species. In particular, Perimeter Pond, which abuts Area 5 of Site 7, originally was constructed to provide additional habitat for endangered species and other biota. Of the seven species of birds that are listed as endangered by either federal or state agencies and known to occur at NAVWPNSTA Seal Beach and the associated wetlands, the state-listed Belding's Savannah sparrow nests in the upland areas of Site 7 north of Perimeter Pond. Other species (including the California least tern and Aleutian Canada goose) have been observed and periodically may visit the site. Only temporary disturbance will occur along the eastern shore of Perimeter Pond. The disturbance will include excavating the eastern shore of Perimeter Pond to remove partially buried and buried debris. The area will be returned to original configuration by the placement and compaction of clean backfill material. Portions of the eastern part of Site 7 (outside the NWR) have been determined to qualify as wetlands. Excavation activities will be conducted during low tide to prevent damage to wetland areas.

As stated in the Biological Resources section, the project may result in the removal of a few native plants that are present in Site 7 Areas 1, 2, 3, 4, and Site 4 AOPCs 1A and 2A. Prior to commencement of debris removal activities, a survey of the affected vegetation habitat would be identified, relocated, and protected. After completion of the removal action activities, replanting would restore the vegetation habitat. The DON would coordinate with USFWS, U.S. Army Corps of Engineers (USACE), and California Department of Fish and Game (CDFG) during the removal action in this portion of the site to comply with the National Wildlife Refuge System Administration Act. The proposed removal action should have insignificant adverse effects on native and non-native plants, including those identified as sensitive species. The NWR Manager (of the U.S. Fish and Wildlife Service [USFWS]) and the CDFG will be consulted prior to and during the implementation of the removal action to minimize any adverse effects to existing plant life. In addition, a portion of Site 7 extends approximately 700 feet into the Seal Beach National Wildlife Refuge, and Site 4 AOPC 1A is located within the refuge. Following the removal action, the excavation will be restored to surrounding grade using clean backfill material.

Migratory birds have been observed at NAVWPNSTA; however, the removal action will be implemented outside the breeding season. In particular, the removal action could potentially disturb breeding of Belding's savannah sparrows and light-footed Clapper rails that nest in the area. Consequently, work will be avoided from March 31 through September. In addition, dust controls, such as spraying soils with water, will be implemented to minimize effects on ecological receptors. The DON will coordinate with the U.S. Fish and Wildlife Service during the planning and implementation of the removal action. The removal action will employ a project control plan to minimize potential threats to endangered species. Due to the foregoing project controls, this project will not have a cumulatively considerable impact on the environment nor will it have a cumulative adverse effect on air, water, habitat, or natural resources.

- b. Have impacts that are individually limited but cumulatively considerable. [As used in the subsection, "cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.]

The IR Program is the DOD program for conducting environmental investigations and remediation of sites contaminated by the release of hazardous substances in accordance with CERCLA. Since 1994, the Navy has completed eight removal actions at NAVWPNSTA Seal Beach, one at each of the following IR sites: Site 1 (Wastewater Settling Pond), Site 5 (Clean Fill Disposal Area), Site 8 (Battery Shop Drainage), Site 9 (Sandblast Grit

Disposal), Site 19 (Building 241 Disposal Pit), Site 20 (Building 68 Mercury Spill), Site 73 (Water Tower), and SWMU 24 (Stationary Demilitarization Furnace). In addition to this removal action, remedial actions are planned for Site 40 (Concrete Pit/Gravel Area) and Site 70 (Research, Testing, and Evaluation Area). The remedial actions for the above-mentioned two sites will not be conducted concurrently with the Site 7 removal action. The intent of the NTCRA is to prepare Sites 4 and 7 for future consideration for "No Further Action" status.

- c. Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly.

To protect the public health and safety and to protect the landfill remedy at Site 7, institutional controls in the form of Land Use Restrictions will be applied to the property. The DON will implement Land Use Restrictions to ensure that Site 7 is not transferred to a non-federal agency. The project will not have or incur environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly. The project is intended to reduce adverse effects on human beings by increasing the separation of the buried debris from surface contact. Also, the project will reduce potential adverse effects by eliminating a pathway for contamination to reach the environment for Area 5 at Site 7 and where elevated concentrations of lead are detected above the TCG at Site 4 AOPCs 1A and 2A. In addition, refer to the response to item a. The intent of the project is to protect humans and habitat from contact or exposure of surface trash and debris. Groundwater monitoring will be performed at Site 7 subsequent to the project activities section to monitor chemicals of concern and potential releases from the landfill.

Residential use of Sites 7 and 4 is unlikely due to the presence of an explosive arc within NAVWPNSTA Seal Beach. Further, human presence usually is limited to brief visits by USFWS personnel and Navy security personnel due to next to its location adjacent to the NWR.

*Specific References (list a, b, c, etc):*

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☒ Less Than Significant Impact  
☐ No Impact

#### V. DETERMINATION OF APPROPRIATE ENVIRONMENTAL DOCUMENT

On the basis of this Initial Study:

- ☒ I find that the proposed project COULD NOT have a significant effect on the environment. A NEGATIVE DECLARATION will be prepared.
- ☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED DECLARATION will be prepared.
- ☐ I find that the proposed project MAY HAVE a significant effect on the environment. An ENVIRONMENTAL IMPACT REPORT will be prepared.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

DTSC Project Manager Signature

Date

Katherine Leibel

Office of Military Facilities  
Department of Toxic  
Substances Control

( 714 ) 484-5446

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DTSC Project Manager Name

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DTSC Project Manager Title

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Phone #

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DTSC Branch/Unit Chief Signature

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Date

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John E. Scandura

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Chief, Southern California  
Branch, OMF

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( 714 ) 484-5440

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DTSC Branch/Unit Chief Name

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DTSC Branch/Unit Chief Title

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Phone #

**ATTACHMENT A**  
**INITIAL STUDY REFERENCE LIST**

For

Action Memorandum/Remedial Action Plan (AM/RAP) for a Non-Time Critical Removal Action at Installation Restoration  
(IR) Site 7, Station Landfill, Naval Weapons Station (NAVWPNSTA) Seal Beach, California

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Figure 1      Site Location  
(8 ½ x 11, B/W)

Figure 2      Removal Action  
(8 ½ x 11, color)

Figure 3      Sampling Locations  
(11 x 17, color)

Figure 4 Wetland Areas  
(11 x 17, B/W)